This document was too large to scan as a whole document, therefore it required breaking into smaller sections.

Document number: SD-WM-DP-053

Section 2 **of** 4

Title: Data Validation Report for 242A Evaporator Analytical Services Project FY93 Tank 241AP107 [Addendum 2A]

Date: 01/28/1994 **Revision:** A000

Originator: Miller GL
Co: WHC

Recipient:
Co:

References: EDT-140729

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ORGANIC LABORATORY ANALYST SIGNATURE LIST

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Marilyn J. Steele	MJS	M J Steele	MJS
Robert W. Stromatt	RWS	R W Stromatt	RWS

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WHC-SD-WM-DP-053
ADDENDUM 2A REV. 0

D2 - TOTAL ORGANIC CARBON ANALYSIS

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D02-001

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DATE TO QC: October 18, 1993

DATA QUALITY REVIEW

I have reviewed the following data for completeness and for compliance with project requirements.

Analyte - TOC

Data Package/Report - Evaporator

Project No. - 21129

ACL Numbers - 93-08651 93-08652 93-08653 93-08654 93-08655 93-08656 93-08657

Thomas H Walker
PNL ACL Quality Representative

12/20/93
Date

DON'T SAY IT -- *Write It!*

Date: December 17, 1993

To: Evaporator Project File 21129

From: TY Hosaka

Subject: TOC Analysis

Please be advised that the matrix spike recoveries for TOC have been calculated using an unconventional formula. Because no formula is specified in the QAPjP for this project, and since the reported results do not exceed any operational limits (by orders of magnitude) for the evaporator, this data is considered adequate for reporting.

The formula used to calculate the spike recovery is as follows:

$$SpikeRecovery = \frac{Matrix\ Spike\ Result}{Sample\ Result + Spike\ Amount}$$

The spike results have been recalculated using the following formula, and some were found to be above the acceptance criteria limit; however, there is no true impact on the quality of the data as reported and the results should be reported with an explanation in the summary case narrative:

$$Spike\ Recovery = \frac{Matrix\ Spike\ Result - Sample\ Result}{Spike\ Amount}$$

E54-3000-101 (10/89)

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Page ____ of ____

ENGINEERING WORKSHEET

Prepared By: DL Baldwin	Date: 12-17-93	Project: EVAPORATOR

Title/Subject: RECALCULATION OF SPIKE RECOVERIES

NOTE: The past method of Spike recovery calculation is not consistent with ALO-003. The new method, as described in ALO-003, is used here to recalculate all spike recoveries.

Sample 93-08646 MS

TC %R: $\frac{(10.46 - .04) - \left(\frac{176.8}{25} \times \frac{19}{20}\right)}{(50/20)} = 148\%$

$\frac{(10.33 - .04) - \left(\frac{176.8}{25} \times \frac{19}{20}\right)}{(50/20)} = 143\%$

TIC %R: $\frac{(8.54 - 0.12) - \left(\frac{138}{25} \times \frac{19}{20}\right)}{(50/20)} = 127\%$

$\frac{(8.05 - 0.12) - \left(\frac{138}{25} \times \frac{19}{20}\right)}{(50/20)} = 107\%$

DL Baldwin 12-17-93 CONCUR:

Battelle
Pacific Northwest Laboratories

Project Number _____

Internal Distribution

System File/LB

Date October 15, 1993

To TY Hosaka

From DL Baldwin DL Baldwin

Subject TOC Results for Evaporator Samples, Project Number 21129

This work is done by the UV-catalyzed persulfate/NDIR method, Test Procedure PNL-ALO-382, Rev. 0, "Solutions Analysis: Carbon", using the Dohrmann DC-80 Total Organic Carbon Analyzer. The M&TE No. for the carbon measurements is WA64102, M&TE No. for the balance is 362-06-01-046. The data is located in the ALO Records Office System File. TC standard used is potassium acid phthalate, lot# 52809, and the TIC standard is sodium carbonate, lot# 52815.

Narrative: This work was performed in two batches on 8/17/93 and 8/25/93. There were no apparent outliers. The required maximum holding time of 28 days was not met, but this should not adversely affect TOC results in this sample material. These samples were all analyzed in duplicate and reported as duplicates, as requested, though normally the duplicate sample injections are averaged and reported as a single result. The QC came within limits, except for 93-08651 TOC RPD of 29%. A probable explanation for this is that in this method TOC is not actually measured, but is the difference between TC and TIC, which are both large, resulting in large uncertainty for TOC. The 93-08653 TOC results were so low that a reported RPD was considered meaningless. Two sets of matrix spikes were performed, one for each batch. The 93-08655 TC matrix spikes, performed on 8-25-93, were 101% and 100% and the TIC matrix spikes were 102% and 97%. The 93-08656 matrix spikes for TC only, performed on 8-17-93, were 111% and 119%. Due to lack of time, no TIC samples were run on this day, therefore no TIC spikes were run either. On the following analysis day 8-25-93, the remaining TIC samples, as well as other TC and TIC work were performed. Precision and accuracy for this method are estimated at ±10% and ±15%, respectively. The units are ug/ml, based on the volume of the original liquid.

ALO Number	Evap No.	TC (ug/ml)	RPD	TOC (ug/ml)	RPD	TIC (ug/ml)	RPD
93-08651	R3620	360	6	80	29	280	0
93-08651D		340		60		280	
93-08652	R3622	360	3	60	18	300	0
93-08652D		350		50		300	
93-08653	R3624	350	3	40	--	310	9

E54-1900-001 (10/89)

93-08653D		340		0		340	
93-08654	R3626	350	0	70	15	280	4
93-08654D		350		60		290	
93-08655	R3628	350	0	100	11	250	4
93-08655D		350		90		260	
93-08655MS	Matrix Spike	101%	1	--		102%	5
93-08655MSD		100%		--		97%	
93-08656	R3629	410	2	10	2	400	0
93-08656D		400		0		400	
93-08656MS	Matrix Spike	111%	7	--		--	
93-08656MSD		119%		--		--	
93-08657PB	R3631	2.2	15	0.6	18	1.6	6
93-08657PBD		1.9		<0.5		1.7	

1) Only TC and TIC are actually measured. TOC is found by the subtraction of TIC from TC.
2) Matrix spike recovery was determined for TC and TIC, in duplicate, using the respective standards.
3) An MDL was determined by the pooled SD of five batch blanks. MDL is set equal to 10x pooled SD. This is set equal to 0.5 ug/ml for TC, TOC and TIC.

Concur by: MCBurt Date: 10/15/93
Disk File: UV-TOC.23 System File: TC082593

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Pacific Northwest Laboratories

CALCULATION WORKSHEET

Calc. No. _____

Page 2 of 2

CAL -- 1 ML
CAL ADJ 14.37
CAL ADJ 9.887

1 TOC 9.887

8-17-93 JK

CAL -- 1 ML
CAL ADJ 9.887

10 ppm TC std
1 ml

1 TOC 10.07

8 TOC 10.04

Water BLANK
1 ml

7 TOC 0.135

4 TOC 0.144

R3629
93-08656
0.25 ml

5 TOC 107.5
5 CANCELLED

TIMEOUT ERROR 10%

93-08656 (50X)
1 ml

6 TOC 7.521

7 TOC 7.577
7 CANCELLED

TIMEOUT ERROR 10%

9 TOC 9.435 417

9 TOC 9.181

93-08656 (50X)
SPIKE
4.5 ml sample
0.5 ml 50ppm std
~~0.5 ml~~ 1 ml JK 8-25-93

10 TOC 11.52

0.5 ml

11 TOC 5.645

12 TOC 6.373

13 TOC 6.066

93-08651
40 µl

14 TOC 13.35
14 CANCELLED

TIMEOUT ERROR 100%

93-08651
(50X)
1 ml

15 TOC 7.384

16 TOC 7.355

93-08652 200
(50X)
1 ml

17 TOC 7.718 305

18 TOC 7.197

10 ppm TC std.
1 ml

19 TOC 10.14

20 TOC 9.719

Water BLANK
1 ml

21 TOC 0.173

22 TOC 0.185

Title		Project	
Prepared by:	Date	Reviewed by:	Date

A-1027-115 (1/89)

2A - 188

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Pacific Northwest Laborat

CALCULATION WORKSHEET

Calc. No. 1 2

8-25-93 JE

CAL -- 1 1
CAL AVE 14.11
CAL ADJ 3.383

TC std 10ppm 1 ml
1 TOC 10.11

5 TOC 10.35

water BLANK 1 ml
3 TOC 0.027

4 TOC 0.077

400 ppm std

5 CANCELLED
VOLUME CHANGED

TOC 1980

CAL -- 200 UL
CAL ADJ 339.3

TOC 335.4

TOC 390.5

R3624 400 Range
93-08653
0.2 ml

TOC 350.3
CANCELLED

TIMEOUT ERROR 100%

TOC 350.5

CANCELLED
SAMPLE DETECTED

CANCELLED
SAMPLE DETECTED

TOC 348.8

R3626
93-08654
.2 ml

TOC 344.6

TOC 349.3

R3628
93-08655
0.2 ml

10 TOC 347.7

11 TOC 350.7

R3631
93-08657
0.2 ml

12 TOC 1.387

13 TOC 1.289

R3620
93-08651
0.2 ml

14 TOC 343.6

water BLANK 1 ml

15 TOC 0.210 /5=

0.2 ml

16 TOC 0.183

400 ppm TC std
0.2 ml

17 TOC 411.3

18 TOC 418.7

SPIKE 93-08655
R3628 10 ml sample
1 ml 2000 std
0.2 ml

19 TOC 483.5
19 CANCELLED

TIMEOUT ERROR 10%

93-08655 SPIKE
10.5 ml sample
1.5 2000 std
WE 472 PPM
0.2 ml

20 TOC 474.5

21 TOC 473.7

10 ppm TC std
1 ml

22 CANCELLED
VOLUME CHANGED

1 TOC 9.837

93-08657
1 ml

2 TOC 2.168

3 TOC 1.913

10ppm TC std
1 ml

4 TOC 9.783

water BLANK 1 ml

5 TOC 0.131

Lite affb
TIC

10 ppm TIC std
1 ml

6 TOC 9.838

water BLANK
1 ml

7 TOC 0.378

93-08656
R3624 (50X)
1 ml

8 TOC 9.838

9 TOC 9.837

93-08651 (50X)
R3620
1 ml

10 TOC 5.835

11 TOC 5.753

93-08652 (50X)
R3622
1 ml

12 TOC 5.952

13 TOC 5.895

93-08655 (50X)
R3628
1 ml

14 TOC 5.141

15 TOC 5.343

93-08655 (50X)
SPIKE
9.5 ml sample
0.5 ml 50 ppm std
1 ml

16 TOC 7.518

17 TOC 7.374

93-08653 (50X)
1 ml

18 TOC 5.887

19 TOC 5.977

93-08654 (50X)
R3626
1 ml

20 TOC 5.881

21 TOC 5.888

R3631
93-08657
1 ml

22 TOC 1.872

23 TOC 1.851

water BLANK
1 ml

24 TOC 0.043

TIC 10PPM std
1 ml

25 TOC 9.838

Title

Prepared by: Date

Reviewed by: Date

A-1087-115 (1/93)

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CARBON (TC/TIC/TOC) ANALYSIS DATA SHEET
UV-Catalyzed Persulfate/NDIR Detector

Procedure: ~~MA-597-7-40.7~~ PNL-440-382 Rev 0 JB 10-27-93

Date Analyzed 8-17-93
Project No. WA64102

Instrument No. WA64102
Balance No. 362-06-01-046

Sample Information:

Sample ID	Sample Size	TC (ug C)	(UV off) TIC (ug C)	Observations, Comments ug/ml	
10 ppm std.	1 ml	10.07	** 9.84	TC = 10.1 TIC = 9.8	
"	"	10.04	—	TC = 10.0	
Water BLANK	1 ml	0.20	** 0.07	TC = 0.20 TIC = 0.07	
"	"	0.14	—	TC = 0.14	
93-08656	0.25 ml	104	—	104 x 4 = 416 TC	
(50x) 93-08656	1 ml	7.53	** 8.08	7.53 - .2 = 7.33 x 50 = 366.5 8.08 - .06 = 8.02 x 50 = 401.0	
"	"	8.48	** 8.04	8.48 - .2 = 8.28 x 50 = 414.0 8.04 - .06 = 7.98 x 50 = 399.0	OK
"	"	8.17	—	8.17 - 0.2 = 7.97 x 50 = 398.5	
* (50x) 93-08656 SPIKE	1 ml	11.52	—	9.5 m 8.06 = 76.67 .5 ml 50 = 25 : .01 ug/ml : 0.2 11.52/10.2 = 113%	OK
"	0.5 ml	5.65	—	5.65 x 2 = 11.3/10.2 = 111%	08-27-93
"	"	6.26	—	6.26 x 2 = 12.52/10.2 = 123%	OK
"	"	6.07	—	6.07 x 2 = 12.14/10.2 = 119	
93-08651	40 ul	13.4	—	13.4 x 25 = 335	OK
(50x) 93-08651	1 ml	7.30	** 5.64	7.3 - 0.2 = 7.1 x 50 = 355 5.64 - .06 = 5.58 x 50 = 279	
"	"	7.06	** 5.75	7.06 - 0.2 = 6.86 x 50 = 343 5.75 - .06 = 5.67 x 50 = 283.5	OK

Pipet Calibrations (or other data):

D802256 1 ml	0.1 ml	
1.0067	0.1012	
1.0064	0.1012	
1.0066	0.1011	
Average 1.0066	0.1012	
% error 0.0002	0.0001	

* SPIKE Prepared: 9.5 ml sa + 0.5 ml 50 ppm std.
** All TIC sample values ran on 8/25/93

TC Standard:
Potassium Acid Pthalate #52809
0.425 ±0.001g -> ~50 ml, add 100 ul H_3PO_4 and dilute to final volume 100 ml = 2000 ppm TC stock solution.
10 ppm TC working standard: 500 ul of 2000 ppm std -> 100ml.

TIC Standard
Sodium Carbonate #52815
0.883 ±0.001g -> 100 ml volume = 1000 ppm TIC stock solution. 10 ppm working standard: 1000 ul of 1000 ppm std to 100 ml.

John Curner 8-17-93
Analyst's Signature date

D L Baldwin 9-10-93
Reviewer's Signature date

[File: CAR-TSTB.LOG, 2/17/93]

Battelle, Pacific Northwest Laboratory

CARBON (TC/TIC/TOC) ANALYSIS DATA SHEET
UV-Catalyzed Persulfate/NDIR Detector

Procedure: ~~MA-507-7-40.7~~ PNL-ALO-382 Rev 0 PB 10-27-93

Date Analyzed 8-17-93
Project No.

Instrument No.
Balance No.

Sample Information:

Sample ID	Sample Size	TC (ug C)	(UV off) TIC (ug C)	Observations, Comments ug/ml
93-058652 (50X)	1 ml	7.32	** 5.95	TC = 7.32 - 0.2 = 356 TIC = 5.95 - .06 = 5.89 x 50 = 294.5
"	"	7.27	** 6.10	TC = 7.27 - .2 = 7.07 x 50 = 353.5 TIC = 6.10 - .06 = 6.04 x 50 = 302
10 ppm std	1 ml	10.14	—	10.1
"	"	9.72	—	9.7
Water BLANK	1 ml	0.27	—	0.27
"	"	0.17	—	0.17

OK

Pipet Calibrations (or other data):

TC BLANK = 0.20
TIC " = 0.06

TC Standard:
Potassium Acid Pthalate #52809
0.425 ±0.001g -> ~50 ml, add 100 ul H_3PO_4 and dilute to final volume 100 ml = 2000 ppm TC stock solution.
10 ppm TC working standard: 500 ul of 2000 ppm std -> 100ml.

TIC Standard
Sodium Carbonate #52815
0.883 ±0.001g -> 100 ml volume = 1000 ppm TIC stock solution. 10 ppm working standard: 1000 ul of 1000 ppm std to 100 ml.

John Eurner 8-17-93
Analyst's Signature date

D L Baldwin 9-10-93
Reviewer's Signature date

(File: CAR-TSTB.LOG, 2/17/93)

Battelle
Pacific Northwest Laboratories

Page ____ of ____

ENGINEERING WORKSHEET

Prepared By: DL Baldwin | Date: 11-12-93 | Project:

Title/Subject:

Recalculation of Spike Recovery for 8-17-93 and 8-25-93 Evaporator

Method: $\% R = \frac{MS - S}{TRUE} \times 100$

SAMPLE	TC % R	TIC % R
93-08656 MS (1 ml)	$\frac{(11.52 - 7.53)}{50/20} \times 100 = 80\%$	
	$(5.65 \times 2 - 7.53) \times 100$	

ALTERNATIVE	$\frac{MS - S}{T}$	
93-08656 MS	$\frac{(11.52 - 0.2) - \left(\frac{366.5}{50} \times \frac{9.5}{10}\right)}{\left(50 \times \frac{0.5}{10}\right)}$	= 174 %
	$\frac{(11.52 - 0.2) - \left(\frac{414}{50} \times \frac{9.5}{10}\right)}{\left(50 \frac{0.5}{10}\right)}$	= 138 %
$\frac{(5.65 - 0.2) - \left(\frac{414}{50} \times \frac{9.5}{10} \times 0.5\right)}{50 \times .5} = \frac{1.52}{1.25}$	$\frac{\left(\frac{5.65 - 0.2}{0.5}\right) - \left(\frac{414}{50} \times \frac{9.5}{10}\right)}{\left(50 \times \frac{0.5}{10}\right)}$	= 121 %
$\frac{(6.26 - 0.2) - \left(\frac{414}{50} \times \frac{9.5}{10} \times 0.5\right)}{50 \times .5 \times \frac{0.5}{10}} = 170\%$	$\frac{\left(\frac{6.26 - 0.2}{0.5}\right) - \left(\frac{414}{50} \times \frac{9.5}{10}\right)}{\left(50 \times \frac{0.5}{10}\right)}$	= 170 %
	$\frac{\left(\frac{6.07 - 0.2}{0.5}\right) - \left(\frac{414}{50} \times \frac{9.5}{10}\right)}{\left(50 \times \frac{0.5}{10}\right)}$ (2.50 mg)	= 155 %

$\frac{50}{20}$ 1 ml out of 20
0.5 ml out of 10

$\frac{2.5 \text{ mg in}}{10 \text{ ml}}$ spike mixture = 2.5 mg/ml × 0.5 ml = 1.25 mg in injection

2.5 mg into spike mixture × $\frac{1}{20}$ = 125

Battelle, Pacific Northwest Laboratory

CARBON (TC/TIC/TOC) ANALYSIS DATA SHEET
UV-Catalyzed Persulfate/NDIR Detector

Procedure: ~~MA-597-7-40.7~~ PNL-ALO-382 Rev 0 DB 10-27-90

Date Analyzed 8-25-93
Project No.

Instrument No. WA64102
Balance No. 362-06-01-046
50.0002, 0.1001 gms

Sample Information:

Sample ID	Sample Size	TC (ug C)	(UV off) TIC (ug C)	Observations, Comments ug/ml
10 ppm std.	1 ml	10.11	**9.84	TC = 10.1 TIC = 9.8
"	"	10.36	—	TC = 10.4
Water BLANK	1 ml	0.03	0.07	TC = 0.03 TIC = 0.07
"	"	0.07	—	TC = 0.07
* 400 ppm std	0.2 ml	395	—	TC = 395
"	"	391	—	TC = 391
93-08653	0.2 ml	351	(50X) 6.26	TC = 351-0.07 = 351 TIC = 6.26-.06 = 6.2 x 50 = 310
"	"	343	6.93	TC = 343 TIC 6.93-.06 = 6.87 x 50 = 344
93-08654	0.2 ml	345.	(50X) 5.60	TC = 345.0 TIC = 5.60-.06 = 5.54 x 50 = 277.0
"	"	350	5.87	TC = 350 TIC = 5.87-.06 = 5.81 x 50 = 290.5
93-08655	0.2 ml	348	(50X) 5.14 ~~5.23~~	TC = 348 TIC = 5.14-.06 = 5.08 x 50 = 254.0
"	"	351	5.34 ~~6.16~~	TC = 351 TIC = 5.34-.06 = 5.28 x 50 = 264.0
93-08657	0.2 ml	1.37 400 Range	1.63	TC = 1.37-.07 = 1.30 TIC = 1.63-.06 = 1.57
"	"	1.27 400 Range	1.65	TC = 1.27-.07 = 1.20 TIC = 1.65-.06 = 1.59
93-08651	0.2 ml	344	—	TC = 344

10 ppm TC BLANK = 0.07 TIC BLANK = 0.06
400 ppm BK = 0.07

Pipet Calibrations (or other data):

F18615 1.000 gm	F18615 0.500 gm	F19066 0.100 gm
1.0015	0.5021	0.0996
1.0010	0.5012	0.1005
1.0004	0.5021	0.1006
Avg. 1.0010	0.5018	0.1002
% error 0.0006	0.0005	0.0006

TC Standard:
Potassium Acid Pthalate #52809
0.425 ±0.001g -> ~50 ml, add 100 ul H_3PO_4 and dilute to final volume 100 ml = 2000 ppm TC stock solution.
10 ppm TC working standard: 500 ul of 2000 ppm std -> 100ml.

TIC Standard
Sodium Carbonate #52815
0.883 ±0.001g -> 100 ml volume = 1000 ppm TIC stock solution. 10 ppm working standard: 1000 ul of 1000 ppm std to 100 ml.

John Eusen 8-25-93
Analyst's Signature date

D L Baldwin 9-10-93
Reviewer's Signature date

[File: CAR-TSTB.LOG, 2/17/93]

* AT 400 ppm range, 0.2 ml injected gives direct Reading of ug/ml
** TIC All Ran on on 10 ppm Range, 1 ml injected gives direct ppm Reading

Battelle, Pacific Northwest Laboratory

CARBON (TC/TIC/TOC) ANALYSIS DATA SHEET
UV-Catalyzed Persulfate/NDIR Detector

Procedure: ~~MA-597-7-40.7~~ PNL-ALO-382 Rev 0 PGB 10-25-93

Date Analyzed 8-25-93
Project No.

Instrument No.
Balance No.

Sample Information:

Sample ID	Sample Size	TC (ug C)	(UV off) TIC (ug C)	Observations, Comments ug/ml	
water BLANK	1 ml	0.04	—	TC = 0.21/5 = 0.04	
"	0.2 ml	0.10	—	TC = 0.10	
400 ppm std	0.2 ml	412	—	TC = 412	
"	"	419	—	TC = 419	
* SPIKE 93-08655	0.2ml	475	7.52	TC(348)18.5+1.5(2000) = 9435/20 = 472 Tim TIC(5.14)9.5+.5(50) = 77.33/10 = 7.4 "	101% 102%
"	"	473	7.37	TC(351)18.5+1.5(2000) = 9494/20 = 475 " TIC(5.34)9.5+.5(50) = 75.73/10 = 757 "	100% 97%
10 ppm std	1 ml	9.59	—	TC = 9.6	
93-08657	"	2.17	1.63	TC = 2.2 TIC = 1.6	
"	"	1.91	1.65	TC = 1.9 TIC = 1.7	
10 ppm std	1 ml	9.76	9.67	TC = 9.8 TIC = 9.7	
Water BLANK	1 ml	0.12	0.04	TC = 0.12 TIC = 0.04	

Pipet Calibrations (or other data): *TC SPIKE: 18.5 ml sample + 1.5 ml 2000 std = TIC SPIKE: 9.5 ml sample + 0.5 ml 50 ppm std

TC Standard:
Potassium Acid Pthalate #52809
0.425 ±0.001g -> ~50 ml, add 100 ul H_3PO_4 and dilute to final volume 100 ml = 2000 ppm TC stock solution. 10 ppm TC working standard: 500 ul of 2000 ppm std -> 100ml.
TIC Standard
Sodium Carbonate #52815
0.883 ±0.001g -> 100 ml volume = 1000 ppm TIC stock solution. 10 ppm working standard: 1000 ul of 1000 ppm std to 100 ml.

John Eurnen 8-25-93
Analyst's Signature date

D L Baldwin 9-10-93
Reviewer's Signature date

[File: CAR-TSTB.LOG, 2/17/93]

========= TC/TOC/TIC =========
===== ANALYTICAL RESULTS =====

TC = Total Carbon
TOC = Total Organic Carbon
TIC = Total Inorganic Carbon

Archive File: TC082593
Customer: T.Y. Hosaka
WP #: M23821

SAMPLE ID / LAB NUMBER	Total Carbon PDF (a)	Total Carbon (b)	Total Carbon %Spike Rec(c)	Organic Carbon PDF (a)	Organic Carbon (b)	Organic Carbon %Spike Rec(c)	Inorganic Carbon PDF (a)	Inorganic Carbon (b)	Inorganic Carbon %Spike Rec(c)
93-08651 R3620		360			80			280	
Duplicate		340			60			280	
93-08652 R3622		360			60			300	
93-08653 R3624		350			20			330	
93-08654 R3626		350			70			280	
93-08655 R3628		350	101 % 100 %		90			260	102 % 97 %
93-08656 R3629		410			0			410	
93-08657 R3631		2.1			<0.5			1.7	
COMMENTS									

Method: ~~PNL MA597 7-40.7~~ PNL-ALO-382 Rev.0 DB 8-17-93
M&TE: WA64102

Analyst: [signature] Date: 8-27-93
Reviewer: D.L. Baldwin Date: 9-13-93

(a) Detection limits 0.5 µg/mL for TC, TOC & TIC, reported DL (ie, <) adjusted for the preparation dilution factor (PDF).
(b) Reporting units = µg/mL, unless otherwise noted.
(c) Analytic spike recovery analysis requirements defined by ALO-212, SOW, or TI -- or performed at operator's discretion.
(d) Precision and accuracy are estimated at ±10% & ±15%, respectively.

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D3 - VOLATILE ORGANIC ANALYSIS

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WHC-SD-WM-DP-053
ADDENDUM 2A REV. 0

DATE TO QC: December 7, 1993

DATA QUALITY REVIEW

I have reviewed the following data for completeness and for compliance with project requirements.

Analyte - VOA

Data Package/Report - Evaporator

Project No. - 21129

ACL Numbers - 93-08651 93-08652 93-08653 93-08654 93-08655 93-08657

PNL ACL Quality Representative

12/10/93
Date

2A-197

D03-001

WHC-SD-WM-DP-053
ADDENDUM 2A REV. 0

ORGANIC COMPOUND ANALYSIS REPORT
VOLATILE COMPOUNDS

SAMPLE ANALYSIS REPORTED

Analysis of six water samples for volatile organic compounds by gas chromatography/mass spectrometry (GC/MS) is the subject of this report.

SAMPLE DESCRIPTION

Sample ID	ACL Lab Number
R3620	93-08651
R3622	93-08652
R3624	93-08653
R3626	93-08654
R3628	93-08655
R3631	93-08657

The samples 93-08651, 93-08652, 93-08653, 93-08654 and 93-08655 and 93-08657 were received at ambient temperature with headspace present by the Organics Group on 08/03/93. The samples were refrigerated upon receipt. These samples are part of the 107AP sample delivery group.

SAMPLE PREPARATION

A 0.1mL aliquot of the sample water was combined with 4.9mL of blank lab water in a heated purge vessel attached to a Tekmar Liquid Sample Concentrator. The overall dilution for the samples was 50.

The analysis followed EPA-CLP SOW 2/88 procedures for analysis of volatile compounds (with exceptions noted in ADR #GAR121393) with a heated purge option for better recoveries. Additional Compounds, Tetrahydrofuran, Isopropylbenzene, 1,2,3-Trimethylbenzene, 1,2,4-Trimethylbenzene, and 1,3,5-Trimethylbenzene, were analyzed for beyond SOW requirements.

ANALYSIS METHOD

- GC/MS procedure: PNL-ALO-335 with ADR GAR121393.
- GC/MS instrumentation: HP-5890/5970 GC/MS (WB46864).
- GC/MS location: Lab 327A, 325 building.
- UNIX computer location: Lab 325, 325 building.

QUALITY CONTROL

Quality control procedures specified for this method were followed. These forms, or the equivalent due to additional non-CLP target compounds are all included in this report, the quality assurance performance requirements are summarized as follows:

Form	Information	Comments
2A	Surrogate Recovery	Meets all requirements.
3A	MS/MSD Recovery	Meets all requirements. Arbitrary limits were used for the additional compounds.
4A	Method Blank Summary	Meets all requirements.
5A	Tune/Mass Calibration	Meets all requirements.
6A	Initial Calibration	5 point calibration. Meets all requirements.
7A	Daily Calibration	Meets all requirements.
8A	Internal Standards	Meets all requirements.

Deviations from protocol requirements are as follows:

- Holding time requirement was not met.
- The samples were received at room temperature with headspace present.

DATA

The data and calibration are archived on magnetic tape in the 325 building, 327-A laboratory. The following is the list of pertinent files:

File Name	Sample Number	Sample Analyzed
>VB301		Mass Calibration/Tune Check
>VB3B2		Continuing Calibration
>VB303	METHOD BLANK	METHOD BLANK
>VB504	PREP BLANK	PREP BLANK (with SDG 101AP)
>VB304	93-08651	R3620
>VB305	93-08651D	R3620D
>VB306	93-08652	R3622
>VB307	93-08652D	R3622D
>VB308	93-08653	R3624
>VB309	93-08653D	R3624D
>VB310	93-08654	R3626
>VB311	93-08654D	R3626D
>VB312	93-08657	R3631
>VB313	93-08657D	R3631D
>VB314	93-08655	R3628
>VB315	93-08655D	R3628D
>VB316	93-08655MS	R3628MS
>VB317	93-08655MSD	R3628MSD

Lab data are also maintained as follows:

Activity	LRB Number	Page Number
GC/MS injection log	BNW-52907	138-139

RESULTS

CLP Target Compounds: The attached 1A equivalent forms show that no Target compounds were observed in the BLANK. No CLP target compounds were observed in the Prep Blank. **Toluene** was observed in samples 93-08651, 93-08651D, 93-08652, 93-08652D, 93-08653, 93-08653D, 93-08654, 93-08654D, 93-08655, 93-08655D, 93-08657, and 93-08657D. However, it was below the CRQL in these samples.

In summary, no volatile CLP target compounds were observed above the CRQL in any of the samples in this SDG 107AP.

The following defines the qualifiers, Q-flags, in the Form 1's:

"Q" Flag	Definition
U	Indicates the compound was analyzed for but not detected, the U-flagged concentration number is the CRQL.
J	Indicates an estimated value for the target or tentatively identified compounds, spectra meet criteria but response is below the CRQL for the target compounds.
B	Compound was found in the blank.
X	Indicates compound was manually deleted because all requirements were not met.
D	Analysis was performed on a diluted sample.
E	Indicates that Quantitation was outside the calibration range.

Tentatively Identified Compounds: No non-EPA Target Compounds were observed in the BLANK, or the samples in this report.

ANALYST [signature] DATE 12-1-93 REVIEW [signature] DATE 12-2-93

FILE: C:\ROSS\REPORTS\V9308651.VAP

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: VBLK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: DVB303.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	trans-1,2-Dichloroethene	5	U
540-59-0	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-02-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U

FORM I VOA 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: VBLK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: DVB303.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-42-5	Styrene	5	U
133-02-7	m&p-Xylene	5	U
133-02-7	o-Xylene	5	U
98-82-8	Isopropylbenzene	5	U
108-67-8	1,3,5-Trimethylbenzene	5	U
95-63-6	1,2,4-Trimethylbenzene	5	U
109-99-9	Tetrahydrofuran	10	U
526-73-8	1,2,3-Trimethylbenzene	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: VBLK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: DVB303.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PREPBLANK

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: EVAPORA SAS No.: SDG No.: 101AP

Matrix: (soil/water) WATER Lab Sample ID: PREPBLANK

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB504.D

Level: (low/med) LOW Date Received: 07/23/93

% Moisture: not dec. _____ Data Analyzed: 10/15/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	500	U
74-83-9	Bromomethane	500	U
75-01-4	Vinyl Chloride	500	U
75-00-3	Chloroethane	500	U
75-09-2	Methylene Chloride	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-35-4	1,1-Dichloroethene	250	U
75-34-3	1,1-Dichloroethane	250	U
540-59-0	trans-1,2-Dichloroethene	250	U
540-59-0	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
107-02-2	1,2-Dichloroethane	250	U
78-93-3	2-Butanone	500	U
71-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	250	U
108-05-4	Vinyl Acetate	500	U
75-27-4	Bromodichloromethane	250	U
78-87-5	1,2-Dichloropropane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
79-01-6	Trichloroethene	250	U
124-48-1	Dibromochloromethane	250	U
79-00-5	1,1,2-Trichloroethane	250	U
71-43-2	Benzene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
75-25-2	Bromoform	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
591-78-6	2-Hexanone	500	U
127-18-4	Tetrachloroethene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
108-88-3	Toluene	250	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PREPBLANK

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: EVAPORA SAS No.: SDG No.: 101AP

Matrix: (soil/water) WATER Lab Sample ID: PREPBLANK

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB504.D

Level: (low/med) LOW Date Received: 07/23/93

% Moisture: not dec. _____ Data Analyzed: 10/15/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-42-5	Styrene	250	U
133-02-7	m&p-Xylene	250	U
133-02-7	o-Xylene	250	U
98-82-8	Isopropylbenzene	250	U
108-67-8	1,3,5-Trimethylbenzene	250	U
95-63-6	1,2,4-Trimethylbenzene	250	U
109-99-9	Tetrahydrofuran	500	U
526-73-8	1,2,3-Trimethylbenzene	500	U

FORM I VOA 3/90

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PREPBLANK

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: evapora SAS No.: SDG No.: 101AP

Matrix: (soil/water) WATER Lab Sample ID: PREPBLANK

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB504.D

Level: (low/med) LOW Date Received: 07/23/93

% Moisture: not dec. _____ Data Analyzed: 10/15/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3620

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08651

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB304.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	500	U
74-83-9	Bromomethane	500	U
75-01-4	Vinyl Chloride	500	U
75-00-3	Chloroethane	500	U
75-09-2	Methylene Chloride	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-35-4	1,1-Dichloroethene	250	U
75-34-3	1,1-Dichloroethane	250	U
540-59-0	trans-1,2-Dichloroethene	250	U
540-59-0	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
107-02-2	1,2-Dichloroethane	250	U
78-93-3	2-Butanone	500	U
71-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	250	U
108-05-4	Vinyl Acetate	500	U
75-27-4	Bromodichloromethane	250	U
78-87-5	1,2-Dichloropropane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
79-01-6	Trichloroethene	250	U
124-48-1	Dibromochloromethane	250	U
79-00-5	1,1,2-Trichloroethane	250	U
71-43-2	Benzene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
75-25-2	Bromoform	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
591-78-6	2-Hexanone	500	U
127-18-4	Tetrachloroethene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
108-88-3	Toluene	130	J
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3620

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08651

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB304.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-42-5	Styrene	250	U
133-02-7	m&p-Xylene	250	U
133-02-7	o-Xylene	250	U
98-82-8	Isopropylbenzene	250	U
108-67-8	1,3,5-Trimethylbenzene	250	U
95-63-6	1,2,4-Trimethylbenzene	250	U
109-99-9	Tetrahydrofuran	500	U
526-73-8	1,2,3-Trimethylbenzene	500	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

R3620

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08651

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB304.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3620D

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08651D

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB305.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	500	U
74-83-9	Bromomethane	500	U
75-01-4	Vinyl Chloride	500	U
75-00-3	Chloroethane	500	U
75-09-2	Methylene Chloride	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-35-4	1,1-Dichloroethene	250	U
75-34-3	1,1-Dichloroethane	250	U
540-59-0	trans-1,2-Dichloroethene	250	U
540-59-0	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
107-02-2	1,2-Dichloroethane	250	U
78-93-3	2-Butanone	500	U
71-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	250	U
108-05-4	Vinyl Acetate	500	U
75-27-4	Bromodichloromethane	250	U
78-87-5	1,2-Dichloropropane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
79-01-6	Trichloroethene	250	U
124-48-1	Dibromochloromethane	250	U
79-00-5	1,1,2-Trichloroethane	250	U
71-43-2	Benzene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
75-25-2	Bromoform	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
591-78-6	2-Hexanone	500	U
127-18-4	Tetrachloroethene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
108-88-3	Toluene	130	J
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3620D

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08651D

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB305.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-42-5	Styrene	250	U
133-02-7	m&p-Xylene	250	U
133-02-7	o-Xylene	250	U
98-82-8	Isopropylbenzene	250	U
108-67-8	1,3,5-Trimethylbenzene	250	U
95-63-6	1,2,4-Trimethylbenzene	250	U
109-99-9	Tetrahydrofuran	500	U
526-73-8	1,2,3-Trimethylbenzene	500	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

R3620D

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08651D

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB305.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3622

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08652

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB306.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	500	U
74-83-9	Bromomethane	500	U
75-01-4	Vinyl Chloride	500	U
75-00-3	Chloroethane	500	U
75-09-2	Methylene Chloride	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-35-4	1,1-Dichloroethene	250	U
75-34-3	1,1-Dichloroethane	250	U
540-59-0	trans-1,2-Dichloroethene	250	U
540-59-0	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
107-02-2	1,2-Dichloroethane	250	U
78-93-3	2-Butanone	500	U
71-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	250	U
108-05-4	Vinyl Acetate	500	U
75-27-4	Bromodichloromethane	250	U
78-87-5	1,2-Dichloropropane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
79-01-6	Trichloroethene	250	U
124-48-1	Dibromochloromethane	250	U
79-00-5	1,1,2-Trichloroethane	250	U
71-43-2	Benzene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
75-25-2	Bromoform	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
591-78-6	2-Hexanone	500	U
127-18-4	Tetrachloroethene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
108-88-3	Toluene	140	J
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3622

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08652

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB306.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-42-5	Styrene	250	U
133-02-7	m&p-Xylene	250	U
133-02-7	o-Xylene	250	U
98-82-8	Isopropylbenzene	250	U
108-67-8	1,3,5-Trimethylbenzene	250	U
95-63-6	1,2,4-Trimethylbenzene	250	U
109-99-9	Tetrahydrofuran	500	U
526-73-8	1,2,3-Trimethylbenzene	500	U

FORM I VOA 3/90

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

R3622

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08652

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB306.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3622D

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08652D

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB307.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	500	U
74-83-9	Bromomethane	500	U
75-01-4	Vinyl Chloride	500	U
75-00-3	Chloroethane	500	U
75-09-2	Methylene Chloride	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-35-4	1,1-Dichloroethene	250	U
75-34-3	1,1-Dichloroethane	250	U
540-59-0	trans-1,2-Dichloroethene	250	U
540-59-0	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
107-02-2	1,2-Dichloroethane	250	U
78-93-3	2-Butanone	500	U
71-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	250	U
108-05-4	Vinyl Acetate	500	U
75-27-4	Bromodichloromethane	250	U
78-87-5	1,2-Dichloropropane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
79-01-6	Trichloroethene	250	U
124-48-1	Dibromochloromethane	250	U
79-00-5	1,1,2-Trichloroethane	250	U
71-43-2	Benzene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
75-25-2	Bromoform	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
591-78-6	2-Hexanone	500	U
127-18-4	Tetrachloroethene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
108-88-3	Toluene	130	J
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3622D

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08652D

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB307.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-42-5	Styrene	250	U
133-02-7	m&p-Xylene	250	U
133-02-7	o-Xylene	250	U
98-82-8	Isopropylbenzene	250	U
108-67-8	1,3,5-Trimethylbenzene	250	U
95-63-6	1,2,4-Trimethylbenzene	250	U
109-99-9	Tetrahydrofuran	500	U
526-73-8	1,2,3-Trimethylbenzene	500	U

FORM I VOA 3/90

2A-217

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

R3622D

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08652D

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB307.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC 3/90

2A - 218

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3624

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08653

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB308.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	500	U
74-83-9	Bromomethane	500	U
75-01-4	Vinyl Chloride	500	U
75-00-3	Chloroethane	500	U
75-09-2	Methylene Chloride	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-35-4	1,1-Dichloroethene	250	U
75-34-3	1,1-Dichloroethane	250	U
540-59-0	trans-1,2-Dichloroethene	250	U
540-59-0	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
107-02-2	1,2-Dichloroethane	250	U
78-93-3	2-Butanone	500	U
71-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	250	U
108-05-4	Vinyl Acetate	500	U
75-27-4	Bromodichloromethane	250	U
78-87-5	1,2-Dichloropropane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
79-01-6	Trichloroethene	250	U
124-48-1	Dibromochloromethane	250	U
79-00-5	1,1,2-Trichloroethane	250	U
71-43-2	Benzene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
75-25-2	Bromoform	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
591-78-6	2-Hexanone	500	U
127-18-4	Tetrachloroethene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
108-88-3	Toluene	120	J
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U

FORM I VOA 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3624

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08653

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB308.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-42-5	Styrene	250	U
133-02-7	m&p-Xylene	250	U
133-02-7	o-Xylene	250	U
98-82-8	Isopropylbenzene	250	U
108-67-8	1,3,5-Trimethylbenzene	250	U
95-63-6	1,2,4-Trimethylbenzene	250	U
109-99-9	Tetrahydrofuran	500	U
526-73-8	1,2,3-Trimethylbenzene	500	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

R3624

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08653

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB308.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3624D

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08653D

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB309.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	500	U
74-83-9	Bromomethane	500	U
75-01-4	Vinyl Chloride	500	U
75-00-3	Chloroethane	500	U
75-09-2	Methylene Chloride	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-35-4	1,1-Dichloroethene	250	U
75-34-3	1,1-Dichloroethane	250	U
540-59-0	trans-1,2-Dichloroethene	250	U
540-59-0	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
107-02-2	1,2-Dichloroethane	250	U
78-93-3	2-Butanone	500	U
71-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	250	U
108-05-4	Vinyl Acetate	500	U
75-27-4	Bromodichloromethane	250	U
78-87-5	1,2-Dichloropropane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
79-01-6	Trichloroethene	250	U
124-48-1	Dibromochloromethane	250	U
79-00-5	1,1,2-Trichloroethane	250	U
71-43-2	Benzene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
75-25-2	Bromoform	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
591-78-6	2-Hexanone	500	U
127-18-4	Tetrachloroethene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
108-88-3	Toluene	130	J
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U

FORM I VOA 3/90

2A-222

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3624D

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08653D

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB309.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-42-5	Styrene	250	U
133-02-7	m&p-Xylene	250	U
133-02-7	o-Xylene	250	U
98-82-8	Isopropylbenzene	250	U
108-67-8	1,3,5-Trimethylbenzene	250	U
95-63-6	1,2,4-Trimethylbenzene	250	U
109-99-9	Tetrahydrofuran	500	U
526-73-8	1,2,3-Trimethylbenzene	500	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

R3624D

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08653D

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB309.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC 3/90

2A-224

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3626

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08654

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB310.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	500	U
74-83-9	Bromomethane	500	U
75-01-4	Vinyl Chloride	500	U
75-00-3	Chloroethane	500	U
75-09-2	Methylene Chloride	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-35-4	1,1-Dichloroethene	250	U
75-34-3	1,1-Dichloroethane	250	U
540-59-0	trans-1,2-Dichloroethene	250	U
540-59-0	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
107-02-2	1,2-Dichloroethane	250	U
78-93-3	2-Butanone	500	U
71-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	250	U
108-05-4	Vinyl Acetate	500	U
75-27-4	Bromodichloromethane	250	U
78-87-5	1,2-Dichloropropane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
79-01-6	Trichloroethene	250	U
124-48-1	Dibromochloromethane	250	U
79-00-5	1,1,2-Trichloroethane	250	U
71-43-2	Benzene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
75-25-2	Bromoform	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
591-78-6	2-Hexanone	500	U
127-18-4	Tetrachloroethene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
108-88-3	Toluene	130	J
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U

FORM I VOA 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3626

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08654

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB310.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-42-5	Styrene	250	U
133-02-7	m&p-Xylene	250	U
133-02-7	o-Xylene	250	U
98-82-8	Isopropylbenzene	250	U
108-67-8	1,3,5-Trimethylbenzene	250	U
95-63-6	1,2,4-Trimethylbenzene	250	U
109-99-9	Tetrahydrofuran	500	U
526-73-8	1,2,3-Trimethylbenzene	500	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

R3626

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08654

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB310.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3626D

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08654D

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB311.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	500	U
74-83-9	Bromomethane	500	U
75-01-4	Vinyl Chloride	500	U
75-00-3	Chloroethane	500	U
75-09-2	Methylene Chloride	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-35-4	1,1-Dichloroethene	250	U
75-34-3	1,1-Dichloroethane	250	U
540-59-0	trans-1,2-Dichloroethene	250	U
540-59-0	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
107-02-2	1,2-Dichloroethane	250	U
78-93-3	2-Butanone	500	U
71-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	250	U
108-05-4	Vinyl Acetate	500	U
75-27-4	Bromodichloromethane	250	U
78-87-5	1,2-Dichloropropane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
79-01-6	Trichloroethene	250	U
124-48-1	Dibromochloromethane	250	U
79-00-5	1,1,2-Trichloroethane	250	U
71-43-2	Benzene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
75-25-2	Bromoform	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
591-78-6	2-Hexanone	500	U
127-18-4	Tetrachloroethene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
108-88-3	Toluene	120	J
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U

FORM I VOA 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3626D

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08654D

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB311.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-42-5	Styrene	250	U
133-02-7	m&p-Xylene	250	U
133-02-7	o-Xylene	250	U
98-82-8	Isopropylbenzene	250	U
108-67-8	1,3,5-Trimethylbenzene	250	U
95-63-6	1,2,4-Trimethylbenzene	250	U
109-99-9	Tetrahydrofuran	500	U
526-73-8	1,2,3-Trimethylbenzene	500	U

FORM I VOA 3/90

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

R3626D

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08654D

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB311.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3631

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08657

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB312.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	500	U
74-83-9	Bromomethane	500	U
75-01-4	Vinyl Chloride	500	U
75-00-3	Chloroethane	500	U
75-09-2	Methylene Chloride	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-35-4	1,1-Dichloroethene	250	U
75-34-3	1,1-Dichloroethane	250	U
540-59-0	trans-1,2-Dichloroethene	250	U
540-59-0	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
107-02-2	1,2-Dichloroethane	250	U
78-93-3	2-Butanone	500	U
71-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	250	U
108-05-4	Vinyl Acetate	500	U
75-27-4	Bromodichloromethane	250	U
78-87-5	1,2-Dichloropropane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
79-01-6	Trichloroethene	250	U
124-48-1	Dibromochloromethane	250	U
79-00-5	1,1,2-Trichloroethane	250	U
71-43-2	Benzene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
75-25-2	Bromoform	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
591-78-6	2-Hexanone	500	U
127-18-4	Tetrachloroethene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
108-88-3	Toluene	130	J
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U

FORM I VOA 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3631

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08657

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB312.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-42-5	Styrene	250	U
133-02-7	m&p-Xylene	250	U
133-02-7	o-Xylene	250	U
98-82-8	Isopropylbenzene	250	U
108-67-8	1,3,5-Trimethylbenzene	250	U
95-63-6	1,2,4-Trimethylbenzene	250	U
109-99-9	Tetrahydrofuran	500	U
526-73-8	1,2,3-Trimethylbenzene	500	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

R3631

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08657

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB312.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3631D

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08657D

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB313.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	500	U
74-83-9	Bromomethane	500	U
75-01-4	Vinyl Chloride	500	U
75-00-3	Chloroethane	500	U
75-09-2	Methylene Chloride	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-35-4	1,1-Dichloroethene	250	U
75-34-3	1,1-Dichloroethane	250	U
540-59-0	trans-1,2-Dichloroethene	250	U
540-59-0	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
107-02-2	1,2-Dichloroethane	250	U
78-93-3	2-Butanone	500	U
71-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	250	U
108-05-4	Vinyl Acetate	500	U
75-27-4	Bromodichloromethane	250	U
78-87-5	1,2-Dichloropropane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
79-01-6	Trichloroethene	250	U
124-48-1	Dibromochloromethane	250	U
79-00-5	1,1,2-Trichloroethane	250	U
71-43-2	Benzene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
75-25-2	Bromoform	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
591-78-6	2-Hexanone	500	U
127-18-4	Tetrachloroethene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
108-88-3	Toluene	120	J
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U

FORM I VOA 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3631D

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08657D

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB313.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-42-5	Styrene	250	U
133-02-7	m&p-Xylene	250	U
133-02-7	o-Xylene	250	U
98-82-8	Isopropylbenzene	250	U
108-67-8	1,3,5-Trimethylbenzene	250	U
95-63-6	1,2,4-Trimethylbenzene	250	U
109-99-9	Tetrahydrofuran	500	U
526-73-8	1,2,3-Trimethylbenzene	500	U

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2A-235

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D03-040 DEA
1-10-94

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

R3631D

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08657D

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB313.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3628

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08655

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB314.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	500	U
74-83-9	Bromomethane	500	U
75-01-4	Vinyl Chloride	500	U
75-00-3	Chloroethane	500	U
75-09-2	Methylene Chloride	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-35-4	1,1-Dichloroethene	250	U
75-34-3	1,1-Dichloroethane	250	U
540-59-0	trans-1,2-Dichloroethene	250	U
540-59-0	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
107-02-2	1,2-Dichloroethane	250	U
78-93-3	2-Butanone	500	U
71-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	250	U
108-05-4	Vinyl Acetate	500	U
75-27-4	Bromodichloromethane	250	U
78-87-5	1,2-Dichloropropane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
79-01-6	Trichloroethene	250	U
124-48-1	Dibromochloromethane	250	U
79-00-5	1,1,2-Trichloroethane	250	U
71-43-2	Benzene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
75-25-2	Bromoform	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
591-78-6	2-Hexanone	500	U
127-18-4	Tetrachloroethene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
108-88-3	Toluene	130	J
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U

FORM I VOA 3/90

2A-237

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3628

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08655

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB314.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-42-5	Styrene	250	U
133-02-7	m&p-Xylene	250	U
133-02-7	o-Xylene	250	U
98-82-8	Isopropylbenzene	250	U
108-67-8	1,3,5-Trimethylbenzene	250	U
95-63-6	1,2,4-Trimethylbenzene	250	U
109-99-9	Tetrahydrofuran	500	U
526-73-8	1,2,3-Trimethylbenzene	500	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

R3628

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08655

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB314.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3628D

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08655D

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB315.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	500	U
74-83-9	Bromomethane	500	U
75-01-4	Vinyl Chloride	500	U
75-00-3	Chloroethane	500	U
75-09-2	Methylene Chloride	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-35-4	1,1-Dichloroethene	250	U
75-34-3	1,1-Dichloroethane	250	U
540-59-0	trans-1,2-Dichloroethene	250	U
540-59-0	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
107-02-2	1,2-Dichloroethane	250	U
78-93-3	2-Butanone	500	U
71-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	250	U
108-05-4	Vinyl Acetate	500	U
75-27-4	Bromodichloromethane	250	U
78-87-5	1,2-Dichloropropane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
79-01-6	Trichloroethene	250	U
124-48-1	Dibromochloromethane	250	U
79-00-5	1,1,2-Trichloroethane	250	U
71-43-2	Benzene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
75-25-2	Bromoform	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
591-78-6	2-Hexanone	500	U
127-18-4	Tetrachloroethene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
108-88-3	Toluene	140	J
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U

FORM I VOA 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3628D

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08655D

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB315.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-42-5	Styrene	250	U
133-02-7	m&p-Xylene	250	U
133-02-7	o-Xylene	250	U
98-82-8	Isopropylbenzene	250	U
108-67-8	1,3,5-Trimethylbenzene	250	U
95-63-6	1,2,4-Trimethylbenzene	250	U
109-99-9	Tetrahydrofuran	500	U
526-73-8	1,2,3-Trimethylbenzene	500	U

FORM I VOA 3/90

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

R3628D

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08655D

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB315.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
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FORM I VOA-TIC 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3628MS

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08655MS

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB316.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	500	U
74-83-9	Bromomethane	500	U
75-01-4	Vinyl Chloride	500	U
75-00-3	Chloroethane	500	U
75-09-2	Methylene Chloride	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-35-4	1,1-Dichloroethene	3200	
75-34-3	1,1-Dichloroethane	250	U
540-59-0	trans-1,2-Dichloroethene	250	U
540-59-0	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
107-02-2	1,2-Dichloroethane	250	U
78-93-3	2-Butanone	500	U
71-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	250	U
108-05-4	Vinyl Acetate	500	U
75-27-4	Bromodichloromethane	250	U
78-87-5	1,2-Dichloropropane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
79-01-6	Trichloroethene	2400	
124-48-1	Dibromochloromethane	250	U
79-00-5	1,1,2-Trichloroethane	250	U
71-43-2	Benzene	2600	
10061-02-6	trans-1,3-Dichloropropene	250	U
75-25-2	Bromoform	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
591-78-6	2-Hexanone	500	U
127-18-4	Tetrachloroethene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
108-88-3	Toluene	2700	
108-90-7	Chlorobenzene	2400	
100-41-4	Ethylbenzene	250	U

FORM I VOA 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3628MS

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08655MS

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB316.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-42-5	Styrene	250	U
133-02-7	m&p-Xylene	250	U
133-02-7	o-Xylene	250	U
98-82-8	Isopropylbenzene	2500	
108-67-8	1,3,5-Trimethylbenzene	2500	
95-63-6	1,2,4-Trimethylbenzene	2500	
109-99-9	Tetrahydrofuran	2200	
526-73-8	1,2,3-Trimethylbenzene	2400	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3628MSD

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08655MSD

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB317.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	500	U
74-83-9	Bromomethane	500	U
75-01-4	Vinyl Chloride	500	U
75-00-3	Chloroethane	500	U
75-09-2	Methylene Chloride	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-35-4	1,1-Dichloroethene	3200	
75-34-3	1,1-Dichloroethane	250	U
540-59-0	trans-1,2-Dichloroethene	250	U
540-59-0	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
107-02-2	1,2-Dichloroethane	250	U
78-93-3	2-Butanone	500	U
71-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	250	U
108-05-4	Vinyl Acetate	500	U
75-27-4	Bromodichloromethane	250	U
78-87-5	1,2-Dichloropropane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
79-01-6	Trichloroethene	2400	
124-48-1	Dibromochloromethane	250	U
79-00-5	1,1,2-Trichloroethane	250	U
71-43-2	Benzene	2500	
10061-02-6	trans-1,3-Dichloropropene	250	U
75-25-2	Bromoform	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
591-78-6	2-Hexanone	500	U
127-18-4	Tetrachloroethene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
108-88-3	Toluene	2600	
108-90-7	Chlorobenzene	2400	
100-41-4	Ethylbenzene	250	U

FORM I VOA 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R3628MSD

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Matrix: (soil/water) WATER Lab Sample ID: 93-08655MSD

Sample wt/vol: 0.1 (g/mL) ML Lab File ID: DVB317.D

Level: (low/med) LOW Date Received: 08/03/93

% Moisture: not dec. _____ Data Analyzed: 10/13/93

GC Column:DB-624 ID: 0.54 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-42-5	Styrene	250	U
133-02-7	m&p-Xylene	250	U
133-02-7	o-Xylene	250	U
98-82-8	Isopropylbenzene	2700	
108-67-8	1,3,5-Trimethylbenzene	2500	
95-63-6	1,2,4-Trimethylbenzene	2600	
109-99-9	Tetrahydrofuran	2100	
526-73-8	1,2,3-Trimethylbenzene	2300	

FORM I VOA 3/90

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

	EPA SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	OTHER	TOT OUT
01	VBLK	97	99	100		0
02	R3620	92	102	101		0
03	R3620D	92	102	99		0
04	R3622	95	102	99		0
05	R3622D	95	102	99		0
06	R3624	96	100	100		0
07	R3624D	96	102	100		0
08	R3626	95	102	100		0
09	R3626D	97	103	100		0
10	R3631	96	102	100		0
11	R3631D	98	101	100		0
12	R3628	95	101	99		0
13	R3628D	95	104	101		0
14	R3628MS	99	102	101		0
15	R3628MSD	98	100	100		0
16						
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		QC LIMITS
SMC1	= 1,2-Dichloroethane-d4	(76-114)
SMC2	= Toluene-d8	(88-110)
SMC3	= Bromofluorobenzene	(86-115)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM II VOA-1 3/90

3A
MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Battelle PNL

Client Name: Client SDG: 107AP

Sample Type: WATER Analysis Type: VOA

Client Target Sample ID: R3628 Level: LOW

Data Type: MS DATA Column Number: 1

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	2500.00	0.00	3200.00	128	61-145
Trichloroethene	2500.00	0.00	2400.00	96	71-120
Benzene	2500.00	0.00	2600.00	104	76-127
Toluene	2500.00	130.00	2700.00	103	76-125
Chlorobenzene	2500.00	0.00	2400.00	96	75-130
Isopropylbenzene	2500.00	0.00	2500.00	100	50-150
1,3,5-Trimethylbenzene	2500.00	0.00	2500.00	100	50-150
1,2,4-Trimethylbenzene	2500.00	0.00	2500.00	100	50-150
Tetrahydrofuran	2500.00	0.00	2200.00	88	50-150
1,2,3-Trimethylbenzene	2500.00	0.00	2400.00	96	50-150

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	2500.00	3200.00	128	0	40	61-145
Trichloroethene	2500.00	2400.00	96	0	40	71-120
Benzene	2500.00	2500.00	100	4	40	76-127
Toluene	2500.00	2600.00	99	4	40	76-125
Chlorobenzene	2500.00	2400.00	96	0	40	75-130
Isopropylbenzene	2500.00	2700.00	108	8	40	50-150
1,3,5-Trimethylbenzene	2500.00	2500.00	100	0	40	50-150
1,2,4-Trimethylbenzene	2500.00	2600.00	104	4	40	50-150
Tetrahydrofuran	2500.00	2100.00	84	5	40	50-150
1,2,3-Trimethylbenzene	2500.00	2300.00	92	4	40	50-150

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 10 outside limits
Spike Recovery: 0 out of 20 outside limits

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Lab File ID: DVB303.D Lab Sample ID: VBLK

Date Analyzed: 10/13/93 Time Analyzed: 0836

GC Column:DB-624 ID: 0.54 (mm) Heated Purge: (Y/N) Y

Instrument ID: HPRTE2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	R3620	93-08651	DVB304.D	0918
02	R3620D	93-08651D	DVB305.D	0957
03	R3622	93-08652	DVB306.D	1036
04	R3622D	93-08652D	DVB307.D	1115
05	R3624	93-08653	DVB308.D	1154
06	R3624D	93-08653D	DVB309.D	1232
07	R3626	93-08654	DVB310.D	1310
08	R3626D	93-08654D	DVB311.D	1349
09	R3631	93-08657	DVB312.D	1426
10	R3631D	93-08657D	DVB313.D	1503
11	R3628	93-08655	DVB314.D	1539
12	R3628D	93-08655D	DVB315.D	1616
13	R3628MS	93-08655MS	DVB316.D	1652
14	R3628MSD	93-08655MSD	DVB317.D	1728
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COMMENTS:

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Lab File ID: DVB301.D BFB Injection Date: 10/13/93

Instrument ID: VOA2 BFB Injection Time: 0529

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	25.1
75	30.0 - 60.0% of mass 95	52.3
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater then 50.0% of mass 95	68.6
175	5.0 - 9.0% of mass 174	4.6 (6.7)1
176	Greater than 95.0%, but less than 101.0% of mass 174	67.2 (98.0)1
177	5.0 - 9.0% of mass 176	4.1 (6.1)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	VSTD050	DVB3B2.D	10/13/93	0735
02	VBLK	VBLK	DVB303.D	10/13/93	0836
03	R3620	93-08651	DVB304.D	10/13/93	0918
04	R3620D	93-08651D	DVB305.D	10/13/93	0957
05	R3622	93-08652	DVB306.D	10/13/93	1036
06	R3622D	93-08652D	DVB307.D	10/13/93	1115
07	R3624	93-08653	DVB308.D	10/13/93	1154
08	R3624D	93-08653D	DVB309.D	10/13/93	1232
09	R3626	93-08654	DVB310.D	10/13/93	1310
10	R3626D	93-08654D	DVB311.D	10/13/93	1349
11	R3631	93-08657	DVB312.D	10/13/93	1426
12	R3631D	93-08657D	DVB313.D	10/13/93	1503
13	R3628	93-08655	DVB314.D	10/13/93	1539
14	R3628D	93-08655D	DVB315.D	10/13/93	1616
15	R3628MS	93-08655MS	DVB316.D	10/13/93	1652
16	R3628MSD	93-08655MSD	DVB317.D	10/13/93	1728
17					
18					
19					
20					
21					
22					

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Instrument ID: HPRTE2 Calibration Date(s): 09/28/93 09/28/93

Heated Purge: (Y/N) Y Calibration Times: 1134 1715

GC Column:DB-624 ID: 0.54 (mm)

LAB FILE ID: RRF20 =DU2806.D RRF50 =DU2807.D
RRF100=DU2808.D RRF150=DU2809.D RRF200=DU2810.D

COMPOUND	RRF20	RRF50	RRF100	RRF150	RRF200	$\overline{RRF}$	% RSD
Chloromethane *	0.990	1.005	0.901	0.906	0.900	0.941	5.6*
Bromomethane	1.277	1.329	1.216	1.228	1.219	1.254	3.9
Vinyl Chloride	0.938	1.003	0.904	0.894	0.890	0.926	5.1
Chloroethane	0.558	0.594	0.525	0.504	0.488	0.534	7.9
Methylene Chloride	1.190	1.273	1.150	1.194	1.182	1.198	3.8
Acetone	0.508	0.708	0.562	0.677	0.659	0.623	13.6
Carbon Disulfide	2.660	3.002	2.897	3.079	3.091	2.946	6.0
1,1-Dichloroethene	1.058	1.131	1.047	1.096	1.080	1.083	3.0
1,1-Dichloroethane *	2.243	2.321	2.059	2.185	2.042	2.170	5.5*
trans-1,2-Dichloroethene	1.230	1.298	1.194	1.283	1.254	1.252	3.3
cis-1,2-Dichloroethene	1.824	1.936	1.753	1.819	1.797	1.826	3.7
Chloroform	2.920	3.110	2.872	3.028	3.157	3.017	4.0
1,2-Dichloroethane	1.802	1.928	1.764	1.917	1.885	1.859	3.9
2-Butanone	0.157	0.200	0.171	0.213	0.206	0.190	12.7
1,1,1-Trichloroethane	2.468	2.586	2.515	2.628	2.706	2.581	3.6
Carbon Tetrachloride	2.239	2.473	2.374	2.475	2.496	2.411	4.5
Vinyl Acetate	0.432	0.472	0.463	0.526	0.586	0.496	12.2
Bromodichloromethane	2.590	2.927	2.807	3.017	3.078	2.884	6.7
1,2-Dichloropropane	0.352	0.374	0.337	0.353	0.348	0.353	3.8
cis-1,3-Dichloropropene	0.456	0.523	0.498	0.524	0.542	0.509	6.5
Trichloroethene	0.443	0.455	0.438	0.451	0.431	0.444	2.2
Dibromochloromethane	0.651	0.759	0.724	0.771	0.779	0.737	7.1
1,1,2-Trichloroethane	0.374	0.399	0.362	0.374	0.371	0.376	3.7
Benzene	0.820	0.846	0.758	0.794	0.789	0.801	4.1
trans-1,3-Dichloropropene	0.398	0.477	0.466	0.497	0.482	0.464	8.3
Bromoform *	0.443	0.504	0.532	0.569	0.604	0.530	11.6*
4-Methyl-2-Pentanone	0.359	0.490	0.416	0.462	0.492	0.444	12.7
2-Hexanone	0.330	0.488	0.375	0.425	0.472	0.418	15.8
Tetrachloroethene	0.454	0.498	0.433	0.449	0.487	0.464	5.9
1,1,2,2-Tetrachloroethane *	0.811	0.891	0.813	0.806	0.894	0.843	5.4*
Toluene	0.627	0.689	0.609	0.589	0.677	0.638	6.8
Chlorobenzene *	0.852	0.984	0.933	0.914	0.980	0.933	5.8*
Ethylbenzene	0.400	0.435	0.339	0.390	0.418	0.396	9.2
Styrene	0.774	0.878	0.778	0.802	0.876	0.822	6.3
m&p-Xylene	0.499	0.539	0.465	0.491	0.531	0.505	6.0
o-Xylene	0.474	0.521	0.451	0.453	0.544	0.489	8.5

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Instrument ID: HPRTE2 Calibration Date(s): 09/28/93 09/28/93

Heated Purge: (Y/N) Y Calibration Times: 1134 1715

GC Column:DB-624 ID: 0.54 (mm)

LAB FILE ID: RRF20 =DU2806.D RRF50 =DU2807.D
RRF100=DU2808.D RRF150=DU2809.D RRF200=DU2810.D

COMPOUND	RRF20	RRF50	RRF100	RRF150	RRF200	$\overline{RRF}$	% RSD
Isopropylbenzene	1.450	1.625	1.435	1.490	1.458	1.492	5.2
1,3,5-Trimethylbenzene	1.166	1.290	1.144	1.133	1.106	1.168	6.1
1,2,4-Trimethylbenzene	1.129	1.270	1.112	1.099	1.053	1.133	7.2
Tetrahydrofuran	0.277	0.272	0.274	0.316	0.319	0.292	8.2
1,2,3-Trimethylbenzene	1.025	1.076	1.018	1.007	0.959	1.017	4.1
1,2-Dichloroethane-d4	1.655	1.694	1.613	1.660	1.565	1.638	3.0
Toluene-d8	1.079	1.165	1.085	1.052	1.120	1.100	3.9
Bromofluorobenzene	0.666	0.738	0.697	0.683	0.713	0.699	4.0

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

FORM VI VOA 2/88

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Instrument ID: HPRTE2 Calibration Date: 10/13/93 Time: 0735

Lab File ID: DVB3B2.D Init. Calibration Date(s): 09/28/93 09/28/93

Heated Purge: (Y/N) Y Init. Calibration Times: 1134 2210

GC Column:DB-624 ID: 0.54 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Chloromethane	0.941	0.965	0.300	-2.5	
Bromomethane	1.254	1.260		-0.5	
Vinyl_Chloride	0.926	0.950		-2.6	25.0
Chloroethane	0.534	0.569		-6.6	
Methylene_Chloride	1.198	1.272		-6.2	
Acetone	0.623	0.662		-6.2	
Carbon_Disulfide	2.946	3.008		-2.1	
1,1-Dichloroethene	1.083	1.181		-9.1	25.0
1,1-Dichloroethane	2.170	2.382	0.300	-9.8	
trans-1,2-Dichloroethene	1.252	1.333		-6.5	
cis-1,2-Dichloroethene	1.826	1.906		-4.4	
Chloroform	3.017	3.063		-1.5	25.0
1,2-Dichloroethane	1.859	1.990		-7.0	
2-Butanone	0.190	0.211		-11.4	
1,1,1-Trichloroethane	2.581	2.599		-0.7	
Carbon_Tetrachloride	2.411	2.474		-2.6	
Vinyl_Acetate	0.512	0.378		26.1	
Bromodichloromethane	2.884	2.958		-2.6	
1,2-Dichloropropane	0.353	0.359		-1.6	25.0
cis-1,3-Dichloropropene	0.509	0.501		1.6	
Trichloroethene	0.444	0.465		-4.9	
Dibromochloromethane	0.737	0.677		8.1	
1,1,2-Trichloroethane	0.376	0.383		-2.0	
Benzene	0.801	0.852		-6.3	
trans-1,3-Dichloropropene	0.464	0.456		1.6	
Bromoform	0.530	0.491	0.250	7.4	
4-Methyl-2-Pentanone	0.444	0.467		-5.1	
2-Hexanone	0.418	0.475		-13.8	
Tetrachloroethene	0.464	0.495		-6.8	
1,1,2,2-Tetrachloroethane	0.843	0.810	0.300	4.0	
Toluene	0.638	0.675		-5.7	25.0
Chlorobenzene	0.933	0.976	0.300	-4.7	
Ethylbenzene	0.396	0.421		-6.2	25.0
Styrene	0.822	0.923		-12.3	
m&p-Xylene	0.505	0.537		-6.4	
o-Xylene	0.489	0.481		1.6	

All other compounds must meet a minimum RRF of 0.010.

FORM VII VOA 2/88

2A-253

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Instrument ID: HPRTE2 Calibration Date: 10/13/93 Time: 0735

Lab File ID: DVB3B2.D Init. Calibration Date(s): 04/13/93 09/28/93

Heated Purge: (Y/N) N Init. Calibration Times: 1134 2210

GC Column:DB-624 ID: 0.54 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Isopropylbenzene	1.492	1.563		-4.8	
1,3,5-Trimethylbenzene	1.168	1.253		-7.3	
1,2,4-Trimethylbenzene	1.133	1.139		-0.5	
Tetrahydrofuran	0.292	0.207		29.0	
1,2,3-Trimethylbenzene	1.017	1.172		-15.2	
1,2-Dichloroethane-d4	1.638	1.603		2.1	
Toluene-d8	1.100	1.065		3.2	
Bromofluorobenzene	0.699	0.707		-1.0	

All other compounds must meet a minimum RRF of 0.010.

FORM VII VOA 2/88

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Battelle PNL Contract:

Lab Code: PNL Case No.: SAS No.: SDG No.: 107AP

Lab File ID (Standard): DVB3B2.D Date Analyzed: 10/13/93

Instrument ID: HPRTE2 Time Analyzed: 0735

GC Column:DB-624 ID: 0.54 (mm) Heated Purge: (Y/N) N

		IS1 (BCM) AREA #	RT #	IS2 (DFB) AREA #	RT #	IS3 (CBZ) AREA #	RT #
	12 HOUR STD	109508	13.13	451281	16.49	374742	24.13
	UPPER LIMIT	219016	13.63	902562	16.99	749484	24.63
	LOWER LIMIT	54754	12.63	225640	15.99	187371	23.63
	EPA SAMPLE No.						
01	VBLK	106860	13.10	433642	16.46	370475	24.11
02	R3620	106265	13.14	456034	16.54	379126	24.17
03	R3620D	102053	13.18	447436	16.53	369812	24.16
04	R3622	104409	13.17	448115	16.57	387936	24.18
05	R3622D	101129	13.18	429581	16.57	381039	24.17
06	R3624	99895	13.19	457612	16.55	379344	24.16
07	R3624D	97464	13.22	444113	16.56	368765	24.18
08	R3626	97363	13.18	442956	16.54	367400	24.16
09	R3626D	96414	13.17	446748	16.53	368299	24.14
10	R3631	94944	13.16	433876	16.53	363492	24.14
11	R3631D	93714	13.15	437912	16.53	363621	24.16
12	R3628	92123	13.14	420191	16.51	357495	24.13
13	R3628D	86374	13.15	380832	16.52	336819	24.13
14	R3628MS	89194	13.10	422885	16.51	355657	24.15
15	R3628MSD	86181	13.19	435439	16.57	347927	24.16
16							
17							
18							
19							
20							
21							
22							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM VIII VOA 3/90

Data File: /chem/HPRTE2.i/october13.b/DVB301.c

Page 1

Date : 13-OCT-1993 05:29

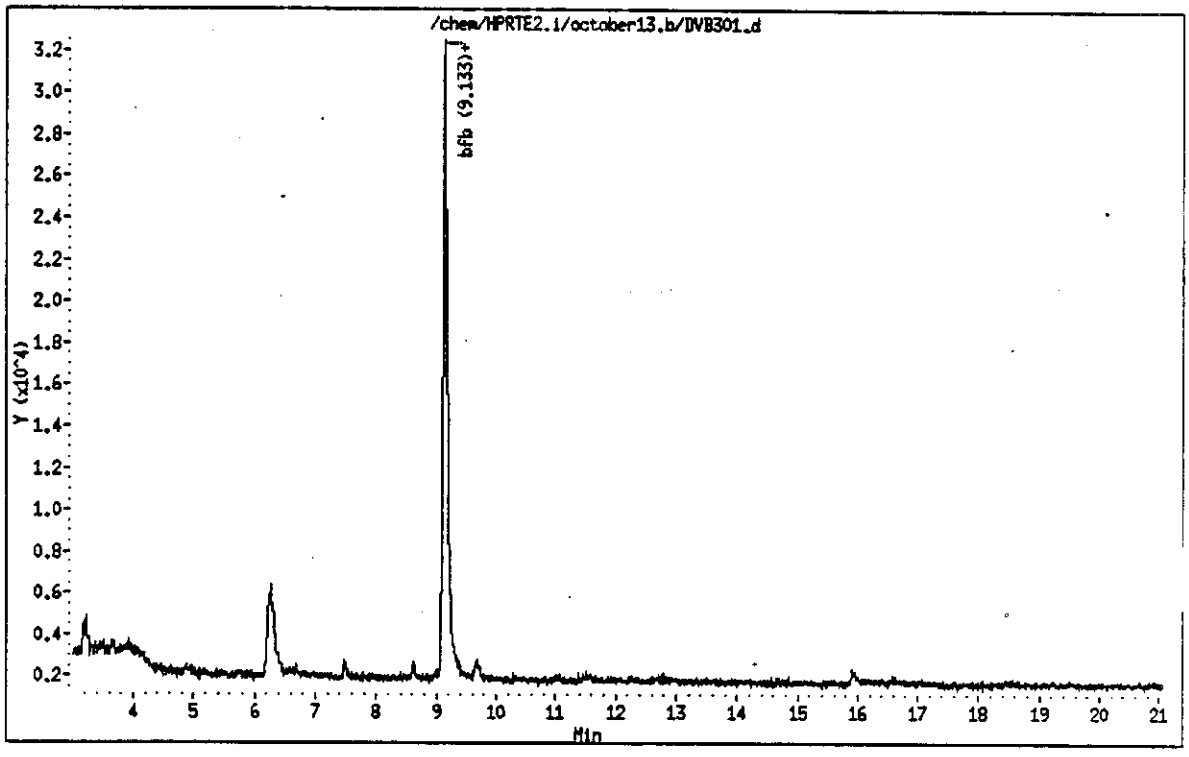
Instrument : unknown.i

Sample ID : BFB

Column phase :

Column diameter : 2.00

Volume Injected (uL) : 1.0



2A-256

Data File: /chem/HPRTE2.i/october13.b/DVB301.d

Page 2

Date : 13-OCT-1993 05:29

Instrument : unknown.i

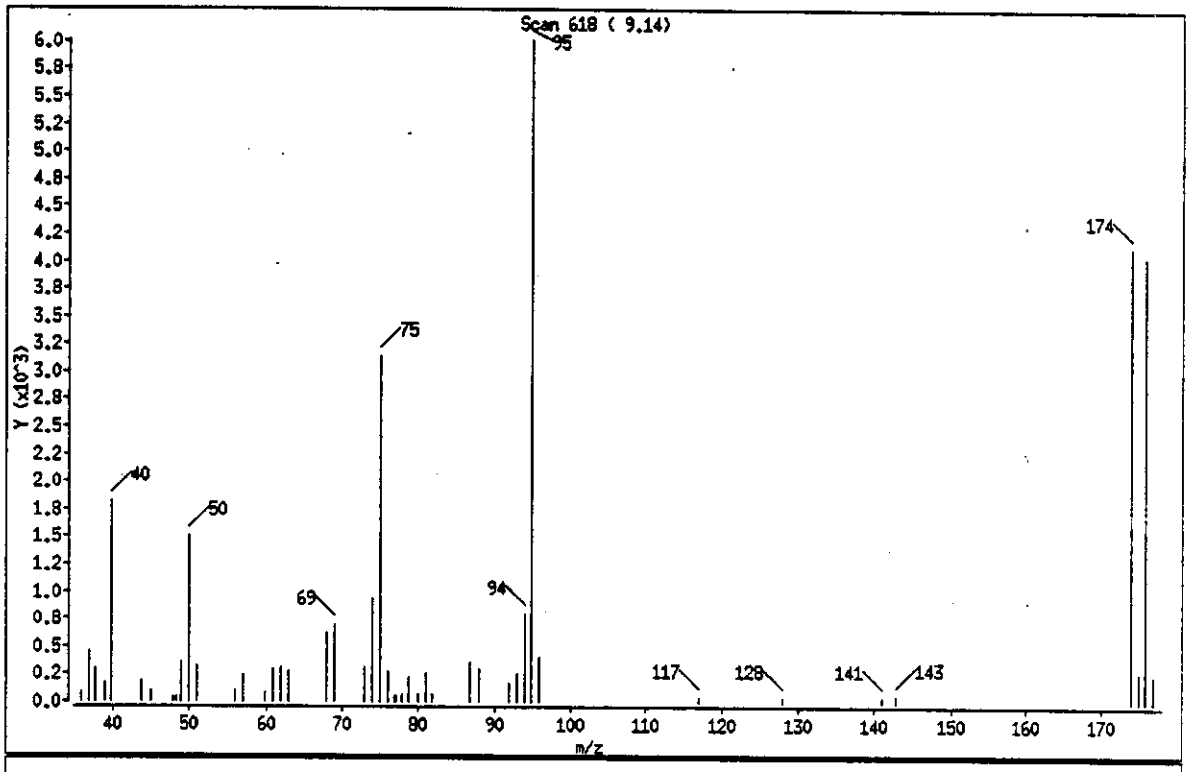
Sample ID : BFB

Column phase :

Column diameter : 2.00

Volume Injected (uL) : 1.0

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	25.05
75	30.00 - 60.00% of mass 95	52.34
96	5.00 - 9.00% of mass 95	6.62
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	68.56
175	4.00 - 9.00% of mass 174	4.57 (6.67)
176	95.00 - 101.00% of mass 174	67.19 (98.01)
177	5.00 - 9.00% of mass 176	4.08 (6.07)

Data File: /chem/HPRTE2.i/october13.b/DVB301.d

Date : 13-OCT-1993 05:29

Instrument : unknown.i

Sample ID : BFB

Column phase :

Column diameter : 2.00

Volume Injected (uL) : 1.0

Spectrum: Scan 618 (9.14)
Location of Maximum: 94.90
Number of points: 46

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.80	87	56.00	106	76.75	47	94.90	6011
36.80	456	56.90	247	77.05	54	95.90	398
37.80	298	59.75	86	77.75	70	116.95	40
39.00	172	60.85	293	78.75	221	127.85	38
39.80	1813	61.85	317	79.85	73	140.90	37
43.80	179	62.95	268	80.85	249	142.90	52
44.90	94	67.85	629	81.80	67	173.85	4121
47.90	47	68.95	696	86.80	358	174.90	275
48.20	48	72.85	316	87.90	300	175.80	4039
48.90	356	73.95	931	92.00	164	176.80	245
49.90	1506	74.95	3146	92.90	256		
51.00	324	75.95	276	93.90	792		

Data File: /chem/HPRTE2.i/october13.b/DVB3B2.d
Report Date: 01-Dec-1993 15:47

Battelle PNL

Data file : /chem/HPRTE2.i/october13.b/DVB3B2.d
Lab. Id. : VSTD050 Quant Type: ISTD
Inj Date : 13-OCT-1993 07:35 Autotune Date: light Savings Time
Operator : Gerald A. Ross Inst ID: HPRTE2.i
Smp Info : DAILY CONT. CAL VO (from RTE file >VB3B2)
Misc Info : 12HR CALIB. CHK. 50PPB
Comment :
Method : /chem/HPRTE2.i/october13.b/voaevap.m
Meth Date : 01-Dec-1993 15:47 target
Cal Date : 13-OCT-1993 07:35 Cal File: DVB3B2.d
Als bottle: 0 Continuing Calibration Sample
Dil Factor: 1.000 Target Version: Target 2.40
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: WATER

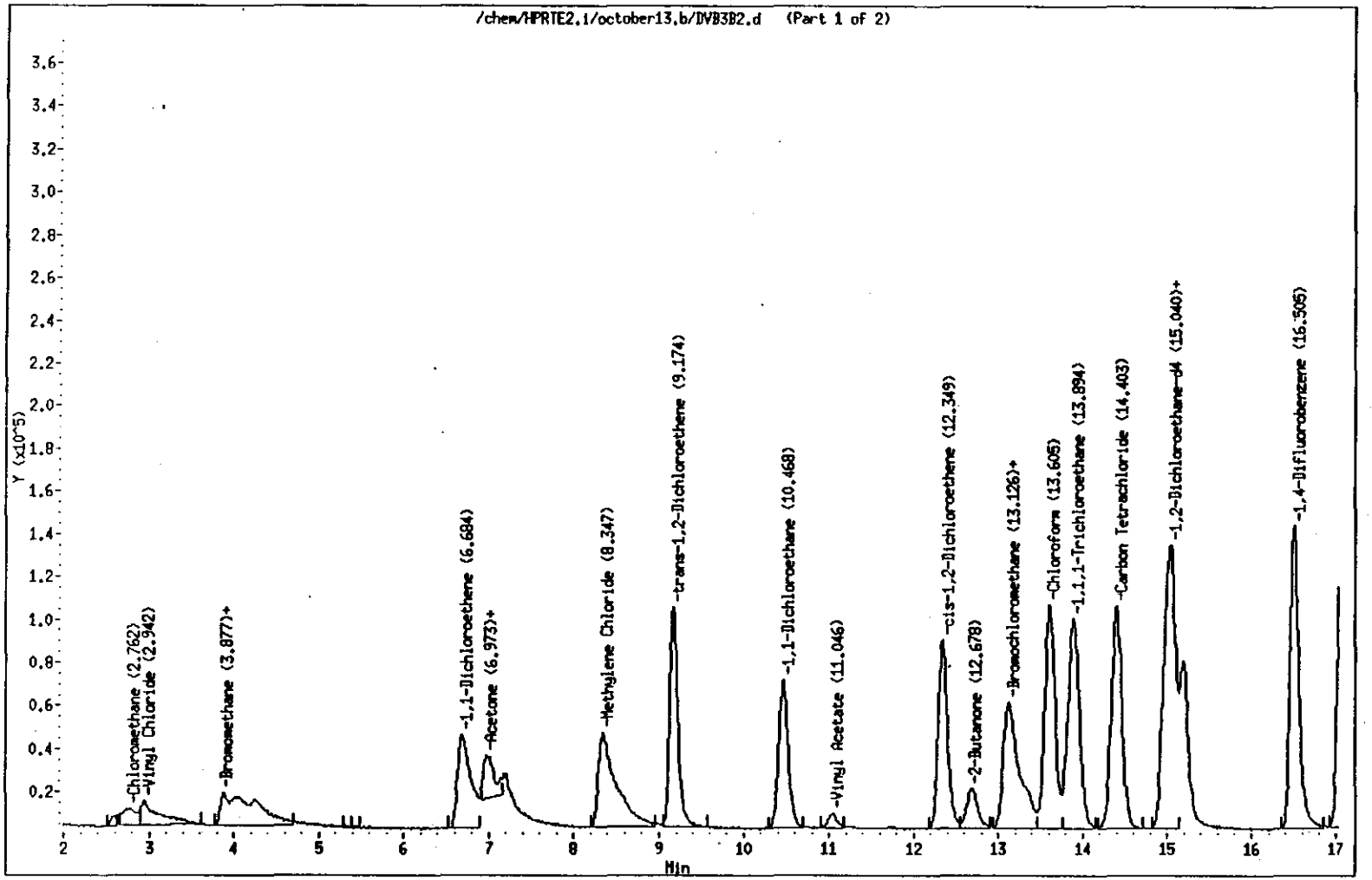
Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
* 1 Bromochloromethane	128.00	13.126	(1.000)	109508	50	
2 Chloromethane	50.00	2.762	(0.210)	105622	51	2600
3 Bromomethane	94.00	3.877	(0.295)	138024	50	2500
4 Vinyl Chloride	62.00	2.942	(0.224)	104026	51	2600
5 Chloroethane	64.00	4.255	(0.324)	62289	53	2700
6 Methylene Chloride	84.00	8.357	(0.637)	139335	53	2600
7 Acetone	43.00	7.202	(0.549)	72441	53	2600
8 Carbon Disulfide	76.00	7.013	(0.534)	329399	51	2600
9 1,1-Dichloroethene	96.00	6.704	(0.511)	129303	54	2700
10 1,1-Dichloroethane	63.00	10.468	(0.797)	260865	55	2700
11 trans-1,2-Dichloroethene	96.00	9.174	(0.699)	145935	53	2700
12 cis-1,2-Dichloroethene	61.00	12.349	(0.941)	208674	52	2600
13 Chloroform	83.00	13.615	(1.037)	335375	51	2500
$ 14 1,2-Dichloroethane-d4	65.00	14.970	(1.141)	175568	49	2400
15 1,2-Dichloroethane	62.00	15.200	(1.158)	217891	54	2700
16 2-Butanone	72.00	12.678	(0.966)	23122	56	2800
17 1,1,1-Trichloroethane	97.00	13.894	(1.059)	284579	50	2500
18 Carbon Tetrachloride	117.00	14.403	(1.097)	270881	51	2600
19 Vinyl Acetate	43.00	11.046	(0.842)	41383	37	1800
20 Bromodichloromethane	83.00	18.548	(1.413)	323924	51	2600
46 Tetrahydrofuran	42.00	13.326	(1.015)	22669	35	1800
* 21 1,4-Difluorobenzene	114.00	16.495	(1.000)	451281	50	
22 1,2-Dichloropropane	63.00	17.631	(1.069)	161908	51	2500
23 cis-1,3-Dichloropropene	75.00	19.782	(1.199)	225899	49	2500
24 Trichloroethene	130.00	17.083	(1.036)	210037	52	2600
25 Dibromochloromethane	129.00	22.665	(1.374)	305625	46	2300
26 1,1,2-Trichloroethane	97.00	21.727	(1.317)	173035	51	2600
27 Benzene	78.00	15.050	(0.912)	384341	53	2600
28 trans-1,3-Dichloropropene	75.00	21.307	(1.292)	205914	49	2400

Data File: /chem/HPRTE2.i/october13.b/DVB3B2.d
Report Date: 01-Dec-1993 15:47

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
	29 Bromoform	173.00	26.324	(1.596)	221752	46	2300
*	30 Chlorobenzene-d5	117.00	24.129	(1.000)	374742	50	
	31 4-Methyl-2-Pentanone	43.00	20.340	(0.843)	174838	52	2600
	32 2-Hexanone	43.00	22.555	(0.935)	178188	57	2800
	33 Tetrachloroethene	164.00	21.976	(0.911)	185666	53	2700
	34 1,1,2,2-Tetrachloroethane	83.00	27.902	(1.156)	303377	48	2400
	35 Toluene	92.00	20.570	(0.852)	252921	53	2600
$	36 Toluene-d8	98.00	20.400	(0.845)	399050	48	2400
	37 Chlorobenzene	112.00	24.189	(1.002)	365823	52	2600
	38 Ethylbenzene	106.00	24.609	(1.020)	157807	53	2600
	39 Styrene	104.00	25.995	(1.077)	345993	56	2800
	40 m&p-Xylene	106.00	24.938	(1.034)	402755	110	5300
	41 o-Xylene	106.00	25.935	(1.075)	180324	49	2500
$	42 Bromofluorobenzene	95.00	27.293	(1.131)	264760	50	2500
	43 Isopropylbenzene	105.00	26.983	(1.118)	585557	52	2600
	44 1,3,5-Trimethylbenzene	105.00	28.530	(1.182)	469415	54	2700
	45 1,2,4-Trimethylbenzene	105.00	29.109	(1.206)	426661	50	2500
	47 1,2,3-Trimethylbenzene	105.00	29.609	(1.227)	439111	58	2900

Data File: /chem/HPRTE2.1/october13.b/DVB3B2.d
Date : 13-OCT-1993 07:35
Instrument : HPRTE2.1
Sample ID : VSTD050
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54

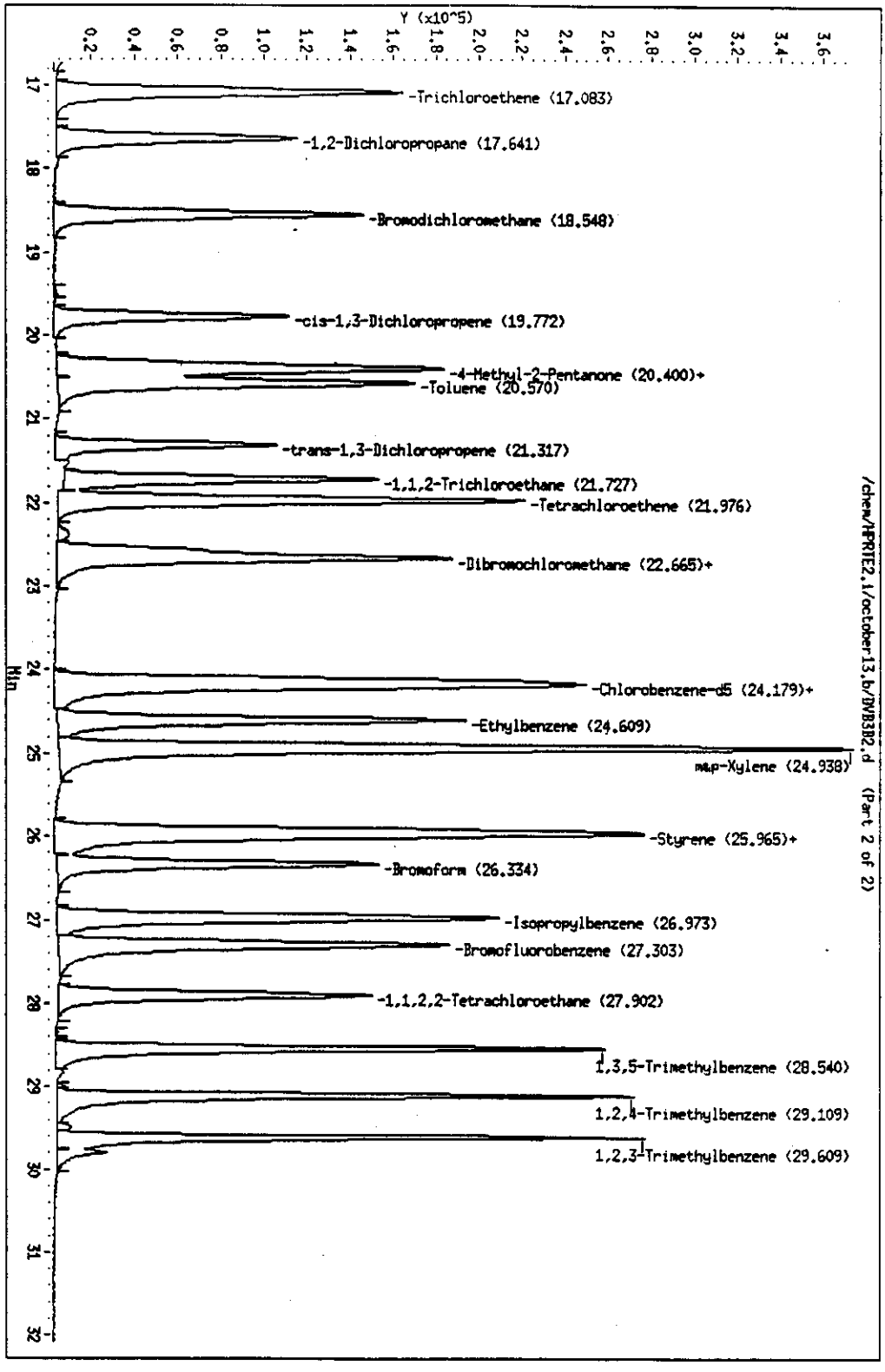


2A-261

D03-066

Data File: /chem/HPRTE2.1/october13.b/DVB3B2.d
Date : 13-OCT-1993 07:35
Instrument : HPRTE2.1
Sample ID : VSTD050
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



/chem/HPRTE2.1/october13.b/DVB3B2.d (Part 2 of 2)

Data File: /chem/HPRTE2.i/october13.b/DVB303.d
Report Date: 01-Dec-1993 16:52

Battelle PNL

Data file : /chem/HPRTE2.i/october13.b/DVB303.d
Lab. Id. : VBLK
Inj Date : 13-OCT-1993 08:36
Operator : Gerald A. Ross
Smp Info : BLANK (from RTE file >VB303)
Misc Info : BLANK
Comment :
Method : /chem/HPRTE2.i/october13.b/voaevap.m
Meth Date : 01-Dec-1993 15:47 target
Cal Date : 13-OCT-1993 07:35
Als bottle: 0
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: WATER

Quant Type: ISTD
Autotune Date: light Savings Time
Inst ID: HPRTE2.i
Cal File: DVB3B2.d
QC Sample: BLANK
Target Version: Target 2.40
Compound Sublist: all.sub

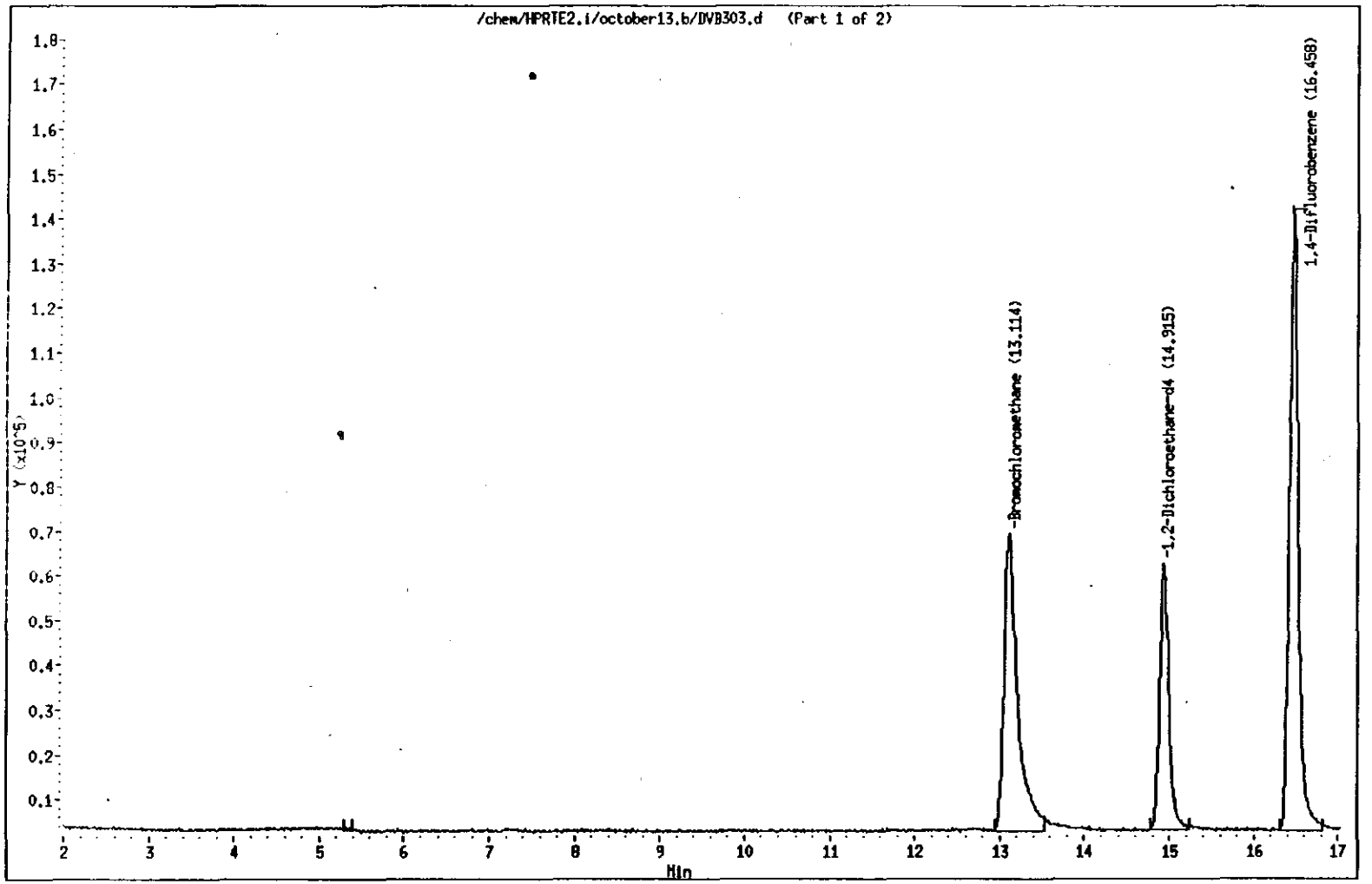
	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
*	1 Bromochloromethane	128.00	13.104	(1.000)	106860	50	
	2 Chloromethane	50.00	Compound Not Detected.				
	3 Bromomethane	94.00	Compound Not Detected.				
	4 Vinyl Chloride	62.00	Compound Not Detected.				
	5 Chloroethane	64.00	Compound Not Detected.				
	6 Methylene Chloride	84.00	Compound Not Detected.				
	7 Acetone	43.00	Compound Not Detected.				
	8 Carbon Disulfide	76.00	Compound Not Detected.				
	9 1,1-Dichloroethene	96.00	Compound Not Detected.				
	10 1,1-Dichloroethane	63.00	Compound Not Detected.				
	11 trans-1,2-Dichloroethene	96.00	Compound Not Detected.				
	12 cis-1,2-Dichloroethene	61.00	Compound Not Detected.				
	13 Chloroform	83.00	Compound Not Detected.				
$	14 1,2-Dichloroethane-d4	65.00	14.915	(1.138)	166162	48	48
	15 1,2-Dichloroethane	62.00	Compound Not Detected.				
	16 2-Butanone	72.00	Compound Not Detected.				
	17 1,1,1-Trichloroethane	97.00	Compound Not Detected.				
	18 Carbon Tetrachloride	117.00	Compound Not Detected.				
	19 Vinyl Acetate	43.00	Compound Not Detected.				
	20 Bromodichloromethane	83.00	Compound Not Detected.				
	46 Tetrahydrofuran	42.00	Compound Not Detected.				
*	21 1,4-Difluorobenzene	114.00	16.458	(1.000)	433642	50	
	22 1,2-Dichloropropane	63.00	Compound Not Detected.				
	23 cis-1,3-Dichloropropene	75.00	Compound Not Detected.				
	24 Trichloroethene	130.00	Compound Not Detected.				
	25 Dibromochloromethane	129.00	Compound Not Detected.				
	26 1,1,2-Trichloroethane	97.00	Compound Not Detected.				
	27 Benzene	78.00	Compound Not Detected.				
	28 trans-1,3-Dichloropropene	75.00	Compound Not Detected.				

Data File: /chem/HPRTE2.i/october13.b/DVB303.d
Report Date: 01-Dec-1993 16:52

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
29 Bromoform	173.00	Compound Not Detected.				
* 30 Chlorobenzene-d5	117.00	24.107	(1.000)	370475	50	
31 4-Methyl-2-Pentanone	43.00	Compound Not Detected.				
32 2-Hexanone	43.00	Compound Not Detected.				
33 Tetrachloroethene	164.00	Compound Not Detected.				
34 1,1,2,2-Tetrachloroethane	83.00	Compound Not Detected.				
35 Toluene	92.00	Compound Not Detected.				
$ 36 Toluene-d8	98.00	20.377	(0.845)	389288	49	49
37 Chlorobenzene	112.00	Compound Not Detected.				
38 Ethylbenzene	106.00	Compound Not Detected.				
39 Styrene	104.00	Compound Not Detected.				
40 m&p-Xylene	106.00	Compound Not Detected.				
41 o-Xylene	106.00	Compound Not Detected.				
$ 42 Bromofluorobenzene	95.00	27.289	(1.132)	261163	50	50
43 Isopropylbenzene	105.00	Compound Not Detected.				
44 1,3,5-Trimethylbenzene	105.00	Compound Not Detected.				
45 1,2,4-Trimethylbenzene	105.00	Compound Not Detected.				
47 1,2,3-Trimethylbenzene	105.00	Compound Not Detected.				

Data File: /chem/HPRTE2.i/october13.b/DVB303.d
Date : 13-OCT-93 08:36
Instrument : HPRTE2.i
Sample ID : VBLK
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



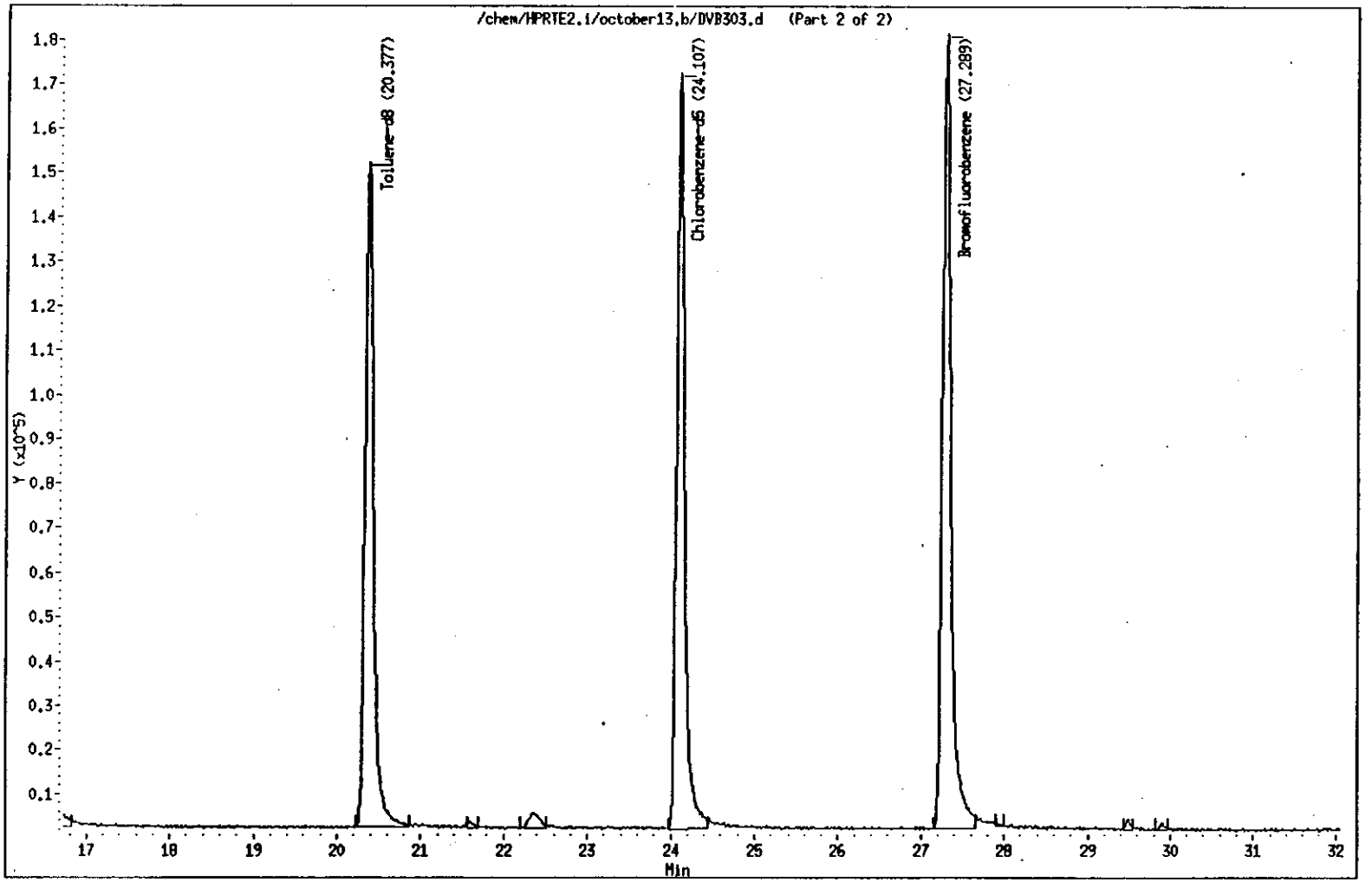
ADDENDUM 2A REV. 0

QA-265

D03-070

Data File: /chem/HPRTE2.i/october13.b/DVB303.d
Date : 13-OCT-93 08:36
Instrument : HPRTE2.i
Sample ID : VBLK
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



WHC-SD-WM-DP-053
ADDENDUM A REV. 0

QA-266

D03-071

Data File: /chem/HPRTE2.i/october13.b/DVB304.d
Report Date: 01-Dec-1993 15:48

Battelle PNL

Data file : /chem/HPRTE2.i/october13.b/DVB304.d
Lab. Id. : 93-08651 Quant Type: ISTD
Inj Date : 13-OCT-93 09:18 Autotune Date: light Savings Time
Operator : Gerald A. Ross Inst ID: HPRTE2.i
Smp Info : 93-08651 (from RTE file >VB304)
Misc Info : R3620 107AP
Comment :
Method : /chem/HPRTE2.i/october13.b/voaevap.m
Meth Date : 01-Dec-1993 15:47 target
Cal Date : 13-OCT-1993 07:35 Cal File: DVB3B2.d
Als bottle: 0
Dil Factor: 1.000 Target Version: Target 2.40
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: WATER

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
*	1 Bromochloromethane	128.00	13.139	(1.000)	106265	50	
	2 Chloromethane	50.00	Compound Not Detected.				
	3 Bromomethane	94.00	Compound Not Detected.				
	4 Vinyl Chloride	62.00	Compound Not Detected.				
	5 Chloroethane	64.00	Compound Not Detected.				
	6 Methylene Chloride	84.00	Compound Not Detected.				
	7 Acetone	43.00	Compound Not Detected.				
	8 Carbon Disulfide	76.00	Compound Not Detected.				
	9 1,1-Dichloroethene	96.00	Compound Not Detected.				
	10 1,1-Dichloroethane	63.00	Compound Not Detected.				
	11 trans-1,2-Dichloroethene	96.00	Compound Not Detected.				
	12 cis-1,2-Dichloroethene	61.00	Compound Not Detected.				
	13 Chloroform	83.00	Compound Not Detected.				
$	14 1,2-Dichloroethane-d4	65.00	15.002	(1.142)	156169	46	2300
	15 1,2-Dichloroethane	62.00	Compound Not Detected.				
	16 2-Butanone	72.00	Compound Not Detected.				
	17 1,1,1-Trichloroethane	97.00	Compound Not Detected.				
	18 Carbon Tetrachloride	117.00	Compound Not Detected.				
	19 Vinyl Acetate	43.00	Compound Not Detected.				
	20 Bromodichloromethane	83.00	Compound Not Detected.				
	46 Tetrahydrofuran	42.00	Compound Not Detected.				
*	21 1,4-Difluorobenzene	114.00	16.535	(1.000)	456034	50	
	22 1,2-Dichloropropane	63.00	Compound Not Detected.				
	23 cis-1,3-Dichloropropene	75.00	Compound Not Detected.				
	24 Trichloroethene	130.00	Compound Not Detected.				
	25 Dibromochloromethane	129.00	Compound Not Detected.				
	26 1,1,2-Trichloroethane	97.00	Compound Not Detected.				
	27 Benzene	78.00	Compound Not Detected.				
	28 trans-1,3-Dichloropropene	75.00	Compound Not Detected.				

Data File: /chem/HPRTE2.i/october13.b/DVB304.d
Report Date: 01-Dec-1993 15:48

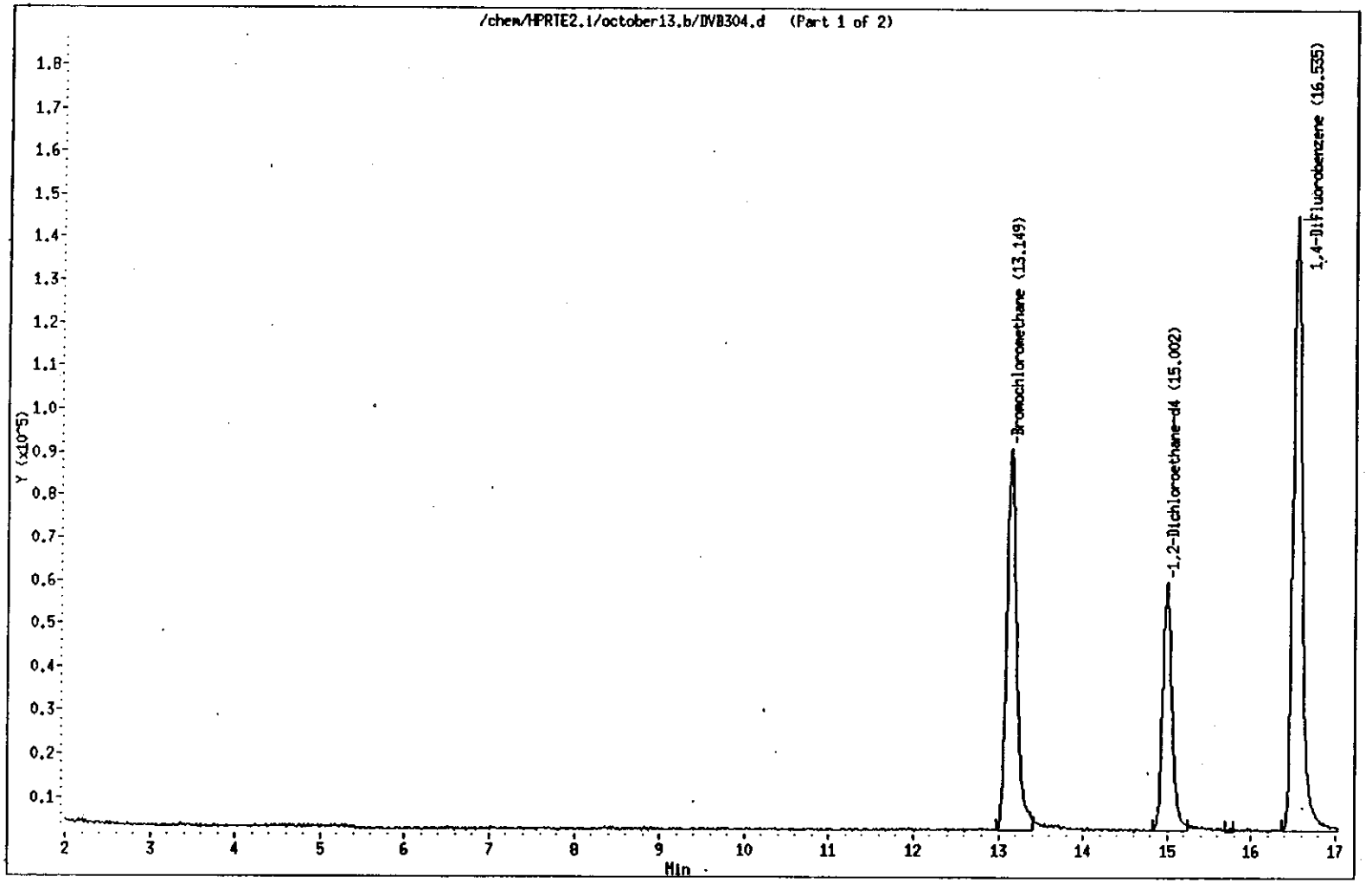
	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
	29 Bromoform	173.00	Compound Not Detected.				
*	30 Chlorobenzene-d5	117.00	24.167	(1.000)	379126	50	
	31 4-Methyl-2-Pentanone	43.00	Compound Not Detected.				
	32 2-Hexanone	43.00	Compound Not Detected.				
	33 Tetrachloroethene	164.00	Compound Not Detected.				
	34 1,1,2,2-Tetrachloroethane	83.00	Compound Not Detected.				
	35 Toluene	92.00	20.617	(0.853)	13458	3	130(a)
$	36 Toluene-d8	98.00	20.447	(0.846)	413257	51	2600
	37 Chlorobenzene	112.00	Compound Not Detected.				
	38 Ethylbenzene	106.00	Compound Not Detected.				
	39 Styrene	104.00	Compound Not Detected.				
	40 m&p-Xylene	106.00	Compound Not Detected.				
	41 o-Xylene	106.00	Compound Not Detected.				
$	42 Bromofluorobenzene	95.00	27.340	(1.131)	269961	50	2500
	43 Isopropylbenzene	105.00	Compound Not Detected.				
	44 1,3,5-Trimethylbenzene	105.00	Compound Not Detected.				
	45 1,2,4-Trimethylbenzene	105.00	Compound Not Detected.				
	47 1,2,3-Trimethylbenzene	105.00	Compound Not Detected.				

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: /chem/HPRTE2.1/october13.b/DVB304.d
Date : 13-OCT-93 09:18
Instrument : HPRTE2.1
Sample ID : R3620
Column phase : DB-624
Volume Injected (uL) : 0.0

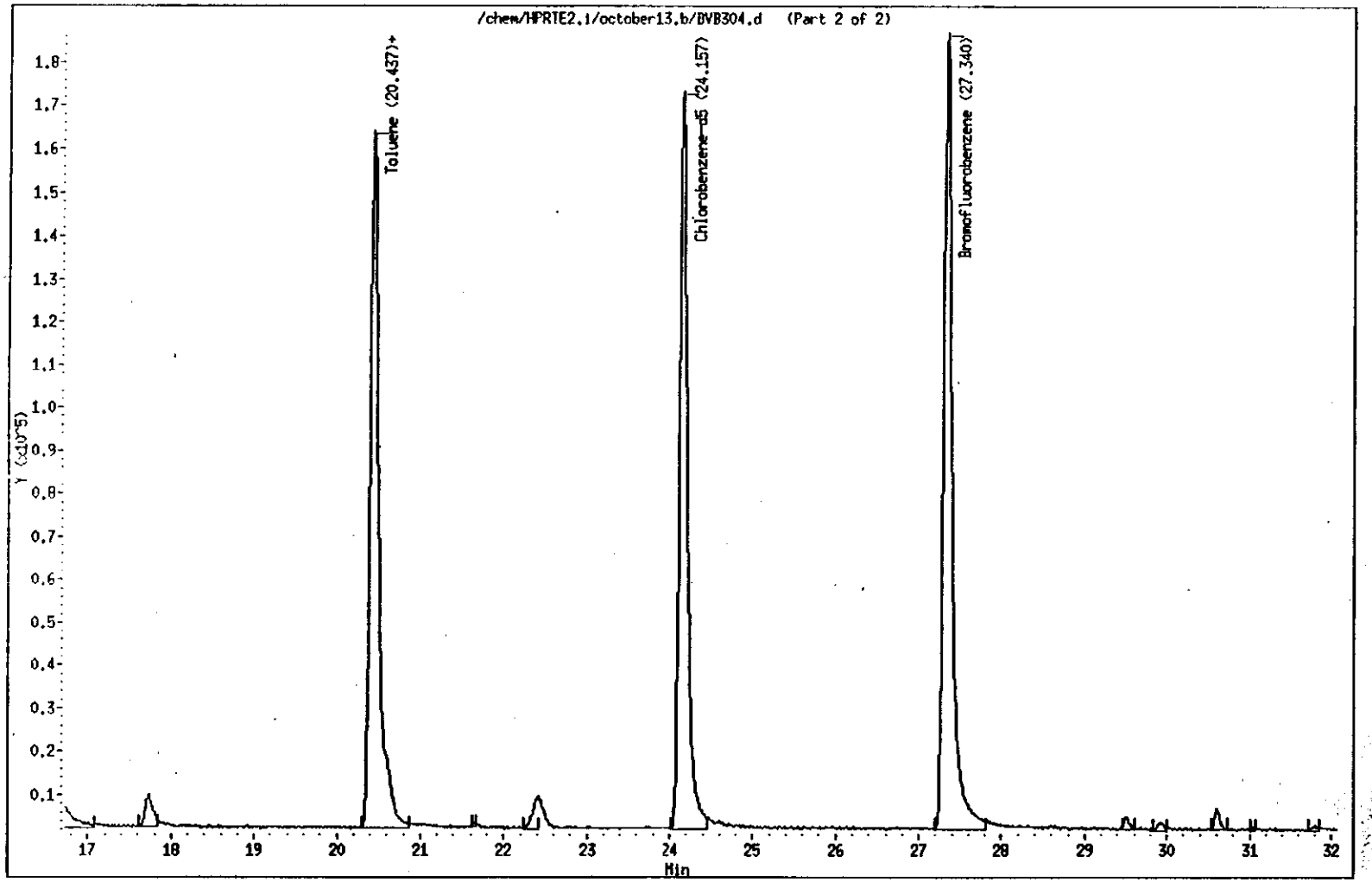
Column diameter : 0.54



WHC-SD-WM-DP-053
ADDENDUM 2A REV. 0

Data File: /chem/HPRTE2.1/october13.b/DVB304.d
Date : 13-OCT-93 09:18
Instrument : HPRTE2.1
Sample ID : R3620
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



ADDENDUM 2A REV. 0

2A - 220

D03-075

Data File: /chem/HPRTE2.i/october13.b/DVB304.d

Date : 13-OCT-93 09:18

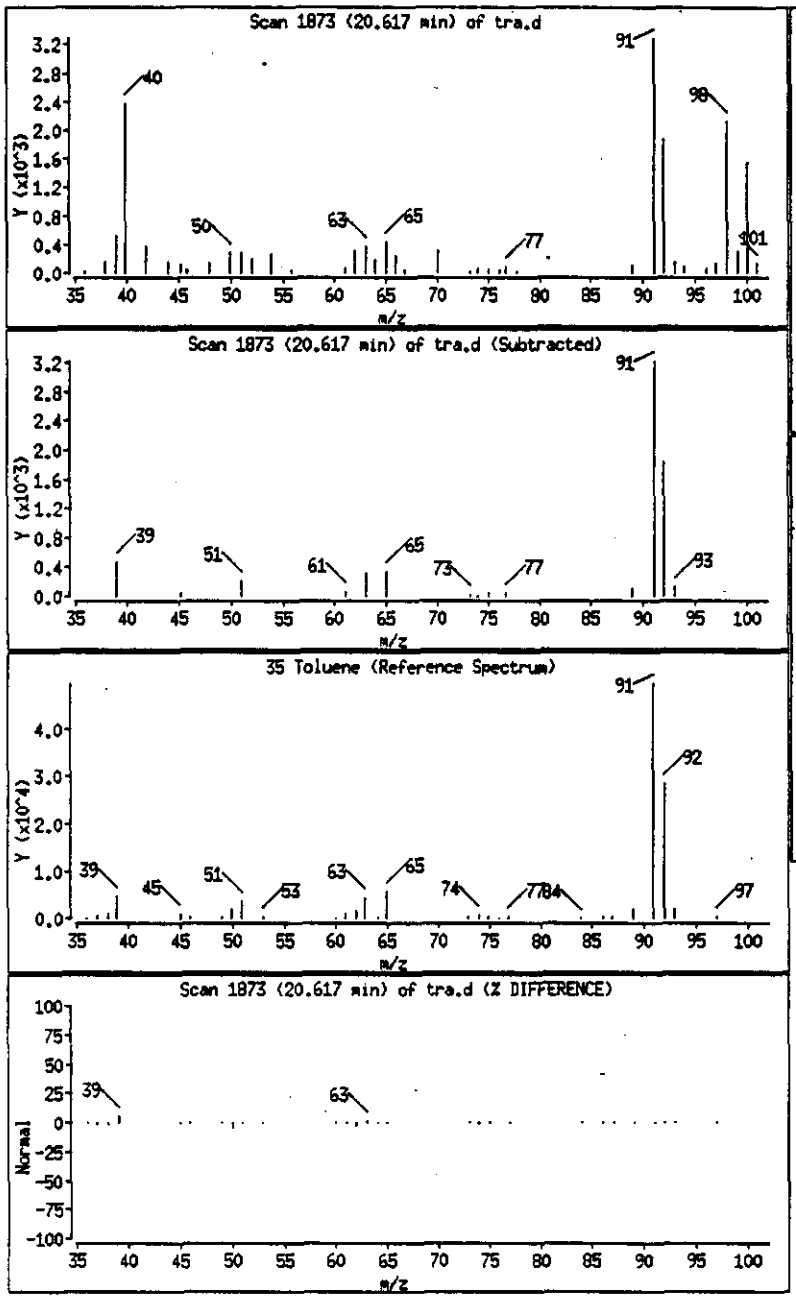
Instrument : HPRTE2.i

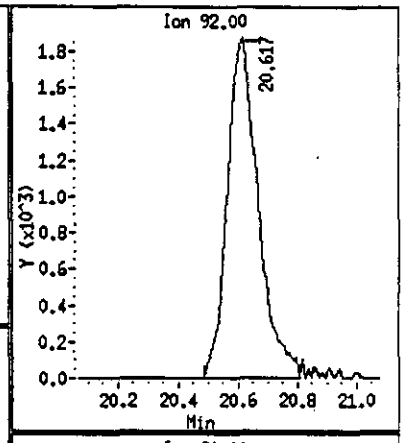
Sample ID : R3620

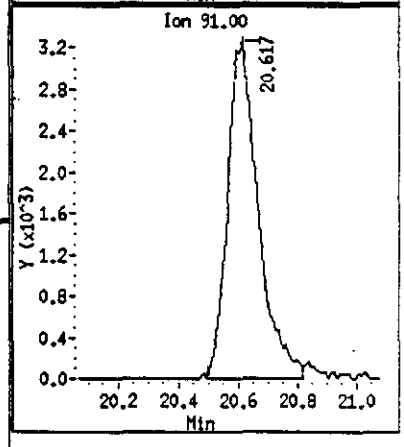
Column phase : DB-624 Column diameter : 0.54

Volume Injected (uL) : 0.0

35 Toluene







Data File: /chem/HPRTE2.i/october13.b/DVB305.d
Report Date: 01-Dec-1993 15:48

Battelle PNL

Data file : /chem/HPRTE2.i/october13.b/DVB305.d
Lab. Id. : 93-08651D — Quant Type: ISTD
Inj Date : 13-OCT-93 09:57 — Autotune Date: light Savings Time
Operator : Gerald A. Ross — Inst ID: HPRTE2.i
Smp Info : 93-08651D (from RTE file >VB305)
Misc Info : R3620D 107AP
Comment :
Method : /chem/HPRTE2.i/october13.b/voaevap.m
Meth Date : 01-Dec-1993 15:47 target
Cal Date : 13-OCT-1993 07:35 — Cal File: DVB3B2.d
Als bottle: 0
Dil Factor: 1.000 — Target Version: Target 2.40
Integrator: HP RTE — Compound Sublist: all.sub
Sample Matrix: WATER

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
*	1 Bromochloromethane	128.00	13.178	(1.000)	102053	50	
	2 Chloromethane	50.00	Compound Not Detected.				
	3 Bromomethane	94.00	Compound Not Detected.				
	4 Vinyl Chloride	62.00	Compound Not Detected.				
	5 Chloroethane	64.00	Compound Not Detected.				
	6 Methylene Chloride	84.00	Compound Not Detected.				
	7 Acetone	43.00	Compound Not Detected.				
	8 Carbon Disulfide	76.00	Compound Not Detected.				
	9 1,1-Dichloroethene	96.00	Compound Not Detected.				
	10 1,1-Dichloroethane	63.00	Compound Not Detected.				
	11 trans-1,2-Dichloroethene	96.00	Compound Not Detected.				
	12 cis-1,2-Dichloroethene	61.00	Compound Not Detected.				
	13 Chloroform	83.00	Compound Not Detected.				
$	14 1,2-Dichloroethane-d4	65.00	15.009	(1.139)	150993	46	2300
	15 1,2-Dichloroethane	62.00	Compound Not Detected.				
	16 2-Butanone	72.00	Compound Not Detected.				
	17 1,1,1-Trichloroethane	97.00	Compound Not Detected.				
	18 Carbon Tetrachloride	117.00	Compound Not Detected.				
	19 Vinyl Acetate	43.00	Compound Not Detected.				
	20 Bromodichloromethane	83.00	Compound Not Detected.				
	46 Tetrahydrofuran	42.00	Compound Not Detected.				
*	21 1,4-Difluorobenzene	114.00	16.531	(1.000)	447436	50	
	22 1,2-Dichloropropane	63.00	Compound Not Detected.				
	23 cis-1,3-Dichloropropene	75.00	Compound Not Detected.				
	24 Trichloroethene	130.00	Compound Not Detected.				
	25 Dibromochloromethane	129.00	Compound Not Detected.				
	26 1,1,2-Trichloroethane	97.00	Compound Not Detected.				
	27 Benzene	78.00	Compound Not Detected.				
	28 trans-1,3-Dichloropropene	75.00	Compound Not Detected.				

Data File: /chem/HPRTE2.i/october13.b/DVB305.d
Report Date: 01-Dec-1993 15:48

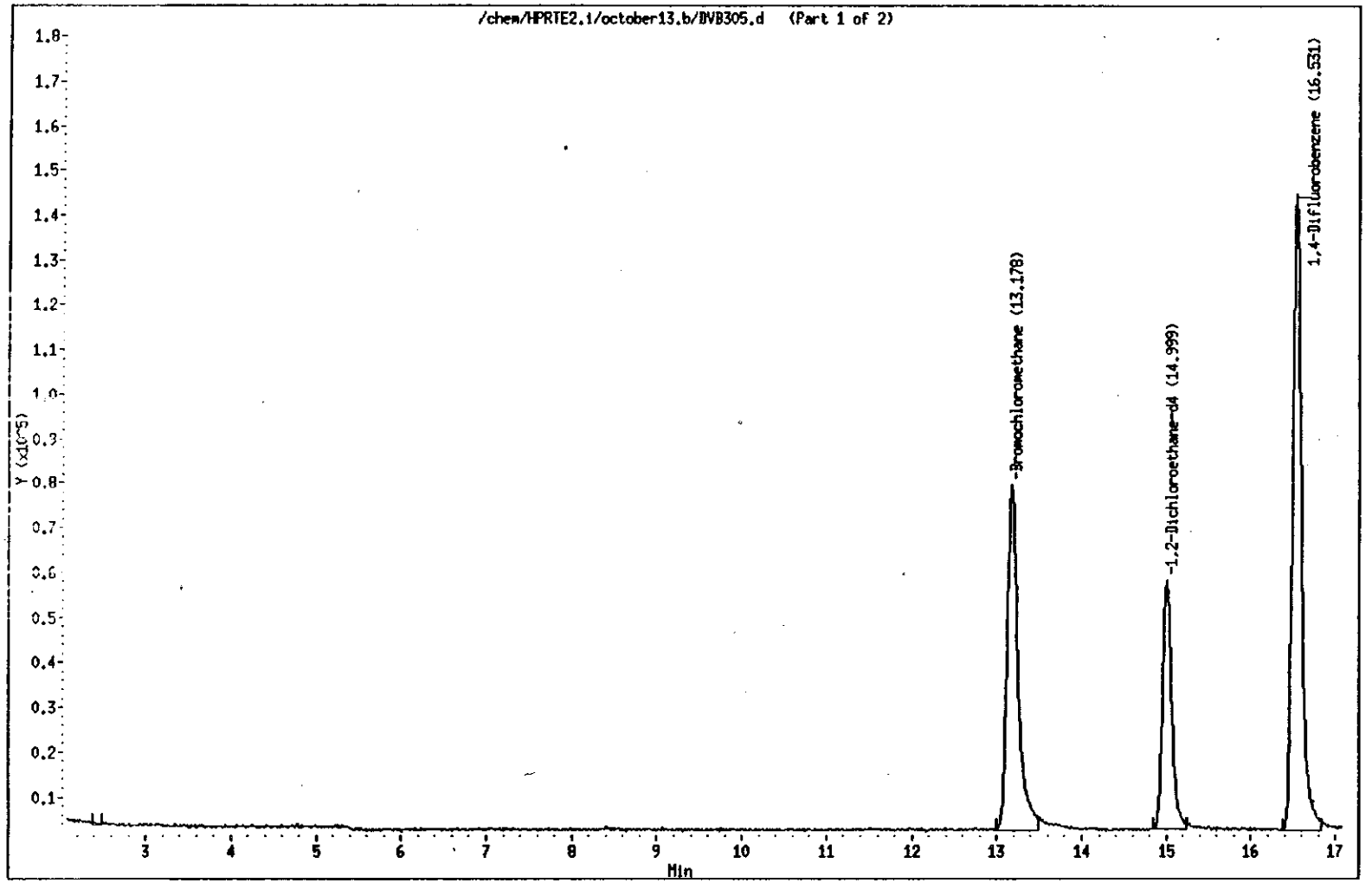
	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
	29 Bromoform	173.00	Compound Not Detected.				
*	30 Chlorobenzene-d5	117.00	24.161	(1.000)	369812	50	
	31 4-Methyl-2-Pentanone	43.00	Compound Not Detected.				
	32 2-Hexanone	43.00	Compound Not Detected.				
	33 Tetrachloroethene	164.00	Compound Not Detected.				
	34 1,1,2,2-Tetrachloroethane	83.00	Compound Not Detected.				
	35 Toluene	92.00	20.611	(0.853)	13070	3	130(a)
$	36 Toluene-d8	98.00	20.441	(0.846)	402404	51	2600
	37 Chlorobenzene	112.00	Compound Not Detected.				
	38 Ethylbenzene	106.00	Compound Not Detected.				
	39 Styrene	104.00	Compound Not Detected.				
	40 m&p-Xylene	106.00	Compound Not Detected.				
	41 o-Xylene	106.00	Compound Not Detected.				
$	42 Bromofluorobenzene	95.00	27.344	(1.132)	259592	50	2500
	43 Isopropylbenzene	105.00	Compound Not Detected.				
	44 1,3,5-Trimethylbenzene	105.00	Compound Not Detected.				
	45 1,2,4-Trimethylbenzene	105.00	Compound Not Detected.				
	47 1,2,3-Trimethylbenzene	105.00	Compound Not Detected.				

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

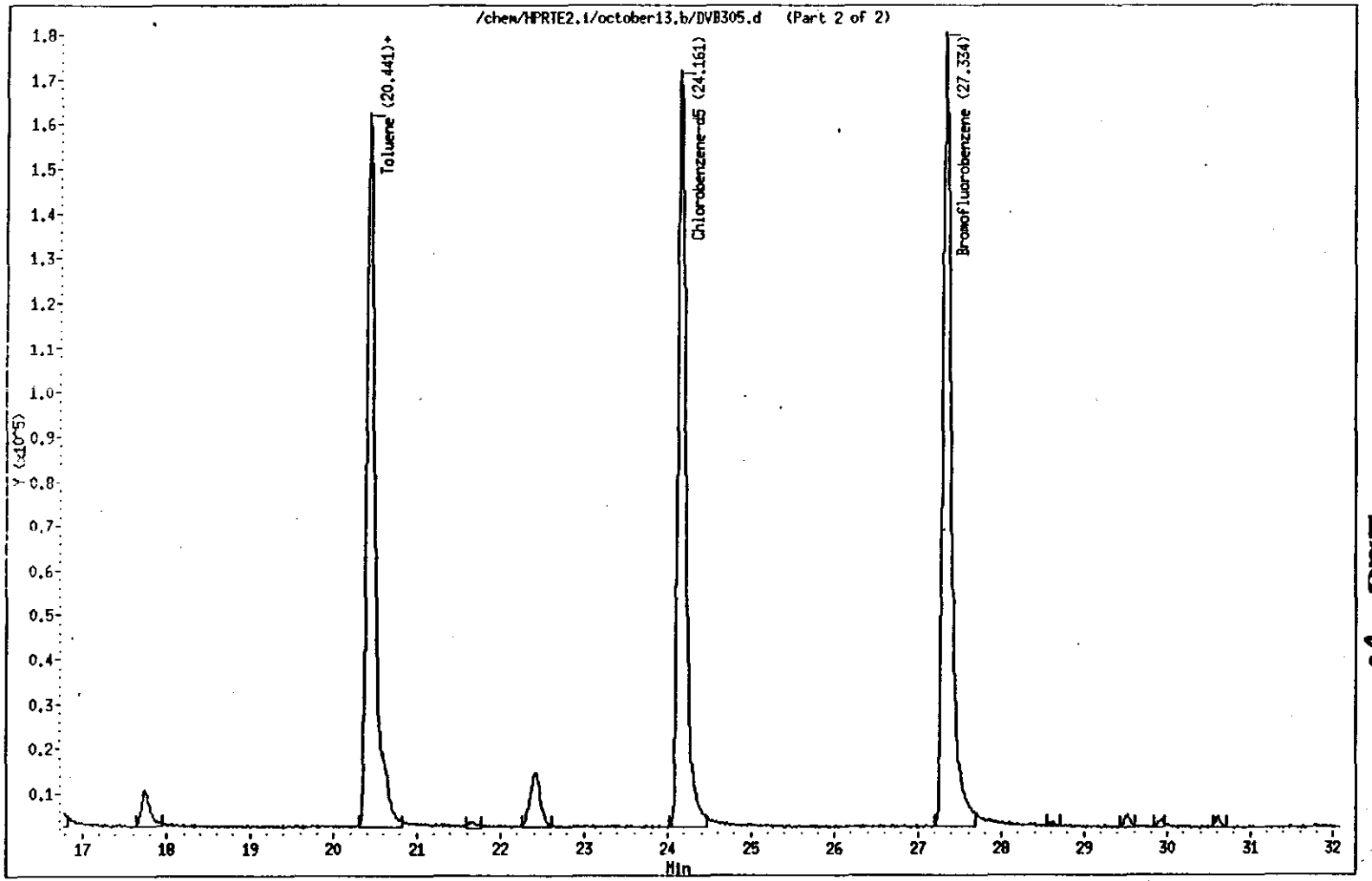
Data File: /chem/HPRTE2.i/october13.b/DVB305.d
Date : 13-OCT-93 09:57
Instrument : HPRTE2.i
Sample ID : R3620D
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



Data File: /chem/HPRTE2.i/october13.b/DVB305.d
Date : 13-OCT-93 09:57
Instrument : HPRTE2.i
Sample ID : R3620D
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



WP-CS-SJ-WWW-DP-053
ADDENDUM 2A REV. 0

2A - 275

D03-050

Data File: /chem/HPRTE2.i/octoker13.b/IVB305.d

Page 5

Date : 13-OCT-93 09:57

Instrument : HPRTE2.i

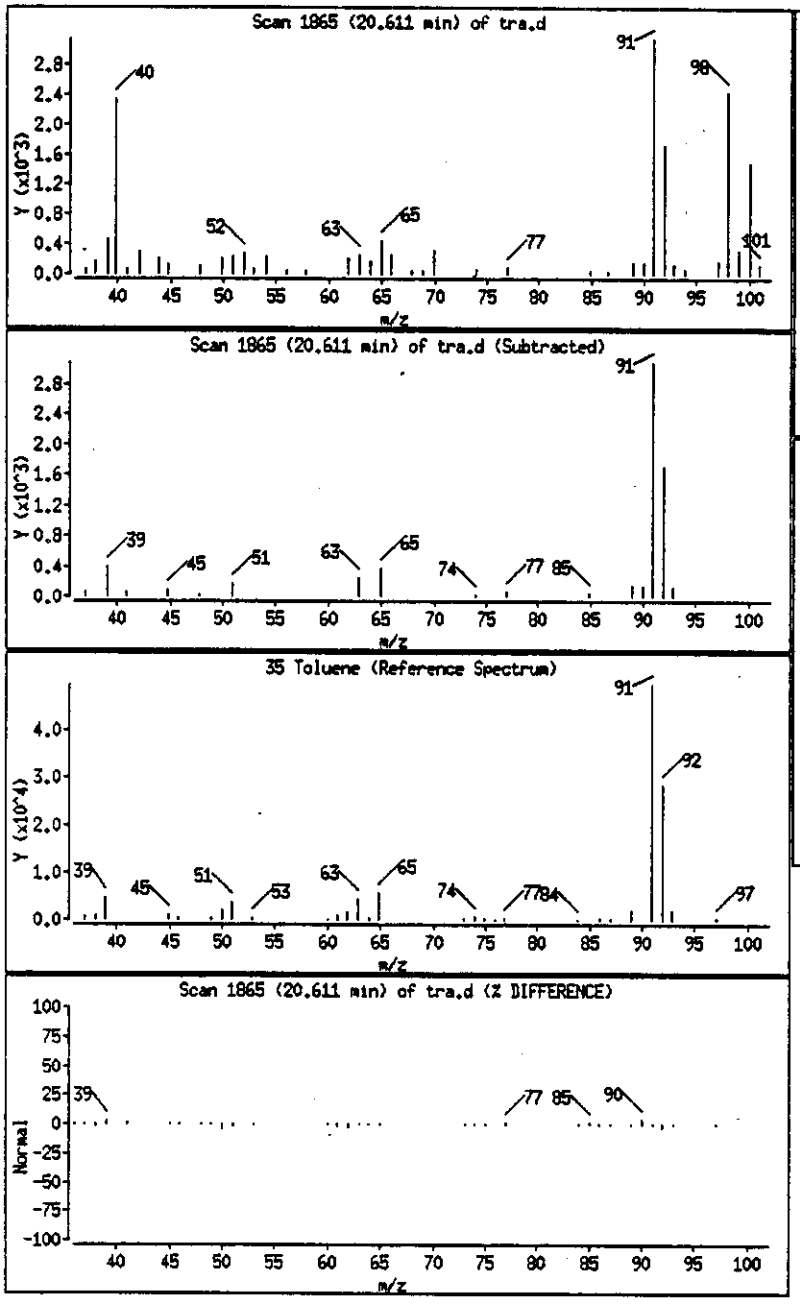
Sample ID : R3620D

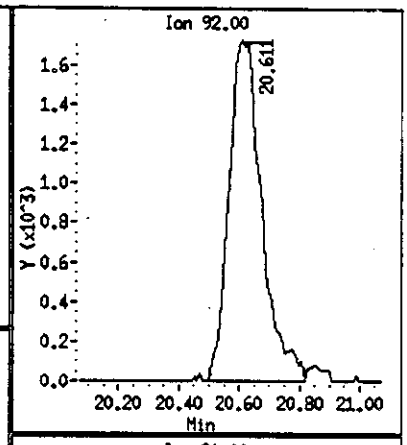
Column phase : DB-624

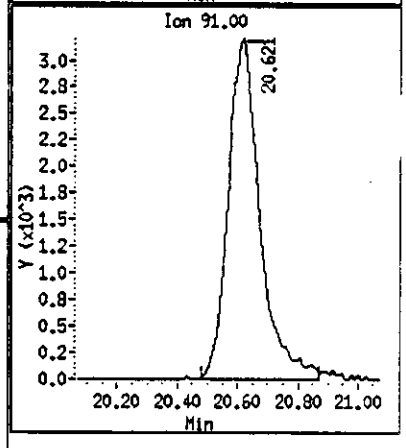
Column diameter : 0.54

Volume Injected (uL) : 0.0

35 Toluene







2A-276

Data File: /chem/HPRTE2.i/october13.b/DVB306.d
Report Date: 01-Dec-1993 15:48

Battelle PNL

Data file : /chem/HPRTE2.i/october13.b/DVB306.d
Lab. Id. : 93-08652 Quant Type: ISTD
Inj Date : 13-OCT-93 10:36 Autotune Date: light Savings Time
Operator : Gerald A. Ross Inst ID: HPRTE2.i
Smp Info : 93-08652 (from RTE file >VB306)
Misc Info : R3622 107AP
Comment : .
Method : /chem/HPRTE2.i/october13.b/voaevap.m
Meth Date : 01-Dec-1993 15:47 target
Cal Date : 13-OCT-1993 07:35 Cal File: DVB3B2.d
Als bottle: 0
Dil Factor: 1.000 Target Version: Target 2.40
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: WATER

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
*	1 Bromochloromethane	128.00	13.172	(1.000)	104409	50	
	2 Chloromethane	50.00	Compound Not Detected.				
	3 Bromomethane	94.00	Compound Not Detected.				
	4 Vinyl Chloride	62.00	Compound Not Detected.				
	5 Chloroethane	64.00	Compound Not Detected.				
	6 Methylene Chloride	84.00	Compound Not Detected.				
	7 Acetone	43.00	Compound Not Detected.				
	8 Carbon Disulfide	76.00	Compound Not Detected.				
	9 1,1-Dichloroethene	96.00	Compound Not Detected.				
	10 1,1-Dichloroethane	63.00	Compound Not Detected.				
	11 trans-1,2-Dichloroethene	96.00	Compound Not Detected.				
	12 cis-1,2-Dichloroethene	61.00	Compound Not Detected.				
	13 Chloroform	83.00	Compound Not Detected.				
$	14 1,2-Dichloroethane-d4	65.00	15.042	(1.142)	159121	48	2400
	15 1,2-Dichloroethane	62.00	Compound Not Detected.				
	16 2-Butanone	72.00	Compound Not Detected.				
	17 1,1,1-Trichloroethane	97.00	Compound Not Detected.				
	18 Carbon Tetrachloride	117.00	Compound Not Detected.				
	19 Vinyl Acetate	43.00	Compound Not Detected.				
	20 Bromodichloromethane	83.00	Compound Not Detected.				
	46 Tetrahydrofuran	42.00	Compound Not Detected.				
*	21 1,4-Difluorobenzene	114.00	16.565	(1.000)	448115	50	
	22 1,2-Dichloropropane	63.00	Compound Not Detected.				
	23 cis-1,3-Dichloropropene	75.00	Compound Not Detected.				
	24 Trichloroethene	130.00	Compound Not Detected.				
	25 Dibromochloromethane	129.00	Compound Not Detected.				
	26 1,1,2-Trichloroethane	97.00	Compound Not Detected.				
	27 Benzene	78.00	Compound Not Detected.				
	28 trans-1,3-Dichloropropene	75.00	Compound Not Detected.				

Data File: /chem/HPRTE2.i/october13.b/DV3306.d
Report Date: 01-Dec-1993 15:48

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
29 Bromoform	173.00	Compound Not Detected.				
* 30 Chlorobenzene-d5	117.00	24.179	(1.000)	387936	50	
31 4-Methyl-2-Pentanone	43.00	Compound Not Detected.				
32 2-Hexanone	43.00	Compound Not Detected.				
33 Tetrachloroethene	164.00	Compound Not Detected.				
34 1,1,2,2-Tetrachloroethane	83.00	Compound Not Detected.				
35 Toluene	92.00	20.637	(0.854)	14475	3	140(a)
$ 36 Toluene-d8	98.00	20.467	(0.846)	423650	51	2600
37 Chlorobenzene	112.00	Compound Not Detected.				
38 Ethylbenzene	106.00	Compound Not Detected.				
39 Styrene	104.00	Compound Not Detected.				
40 m&p-Xylene	106.00	Compound Not Detected.				
41 o-Xylene	106.00	Compound Not Detected.				
$ 42 Bromofluorobenzene	95.00	27.352	(1.131)	271638	50	2500
43 Isopropylbenzene	105.00	Compound Not Detected.				
44 1,3,5-Trimethylbenzene	105.00	Compound Not Detected.				
45 1,2,4-Trimethylbenzene	105.00	Compound Not Detected.				
47 1,2,3-Trimethylbenzene	105.00	Compound Not Detected.				

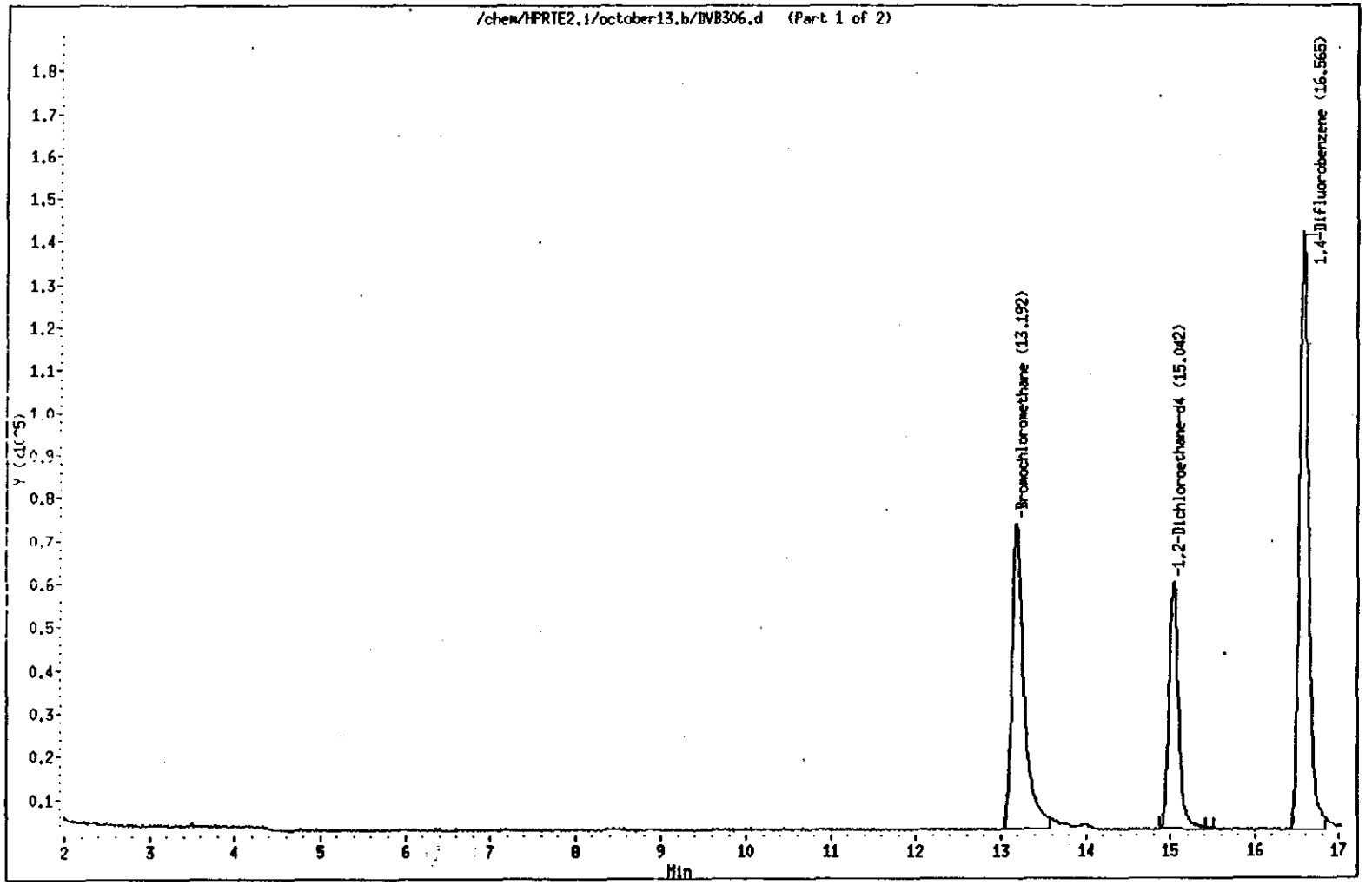
QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

2A-278

Data File: /chem/HPRTE2.1/october13.b/DVB306.d
Date : 13-OCT-93 10:36
Instrument : HPRTE2.1
Sample ID : R3622
Column phase : DB-624
Volume Injected (uL) : 0.0

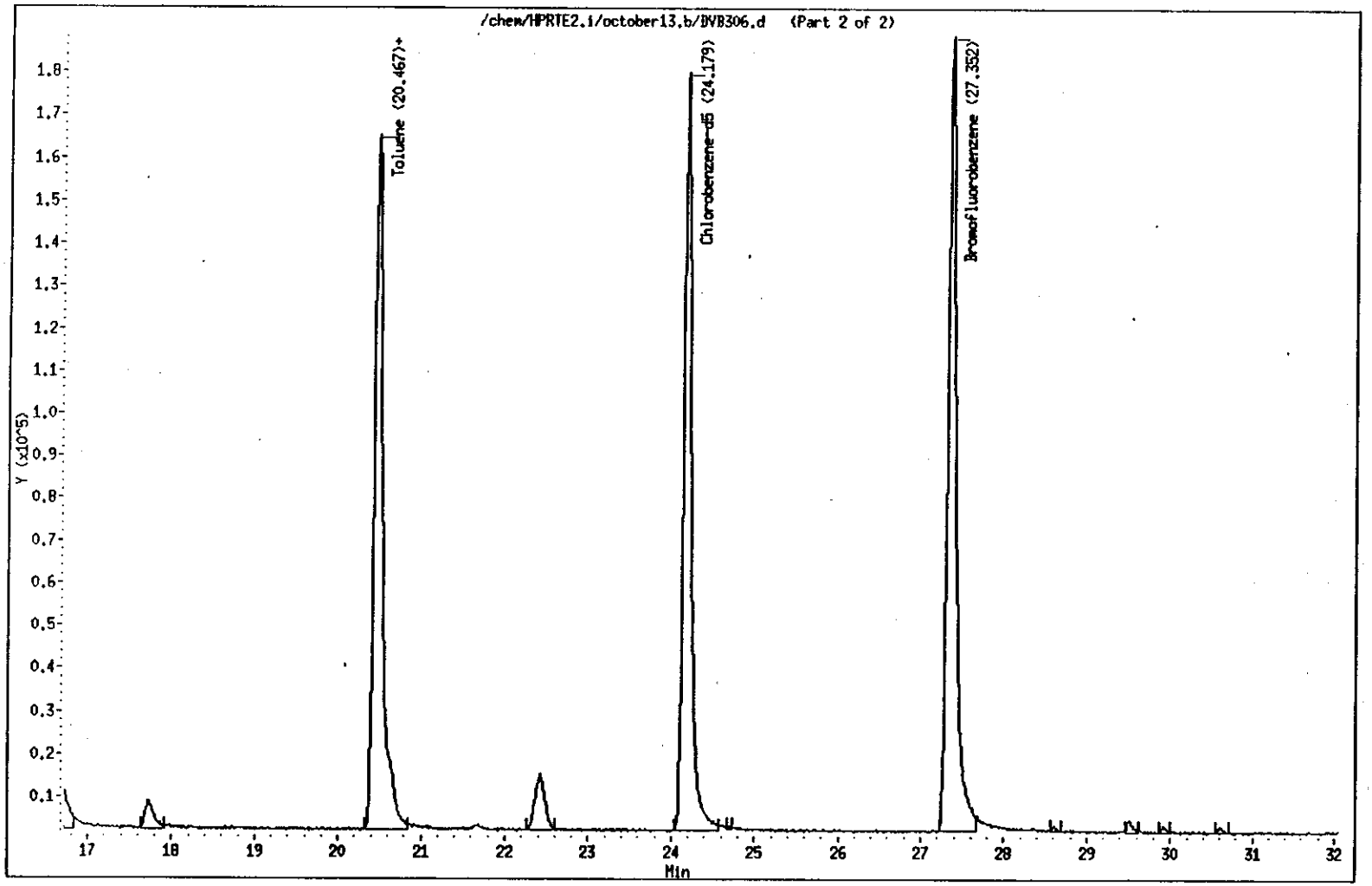
Column diameter : 0.54



DA-279

Data File: /chem/HPRTE2.i/october13.b/DVB306.d
Date : 13-OCT-93 10:36
Instrument : HPRTE2.i
Sample ID : R3622
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



Data File: /chem/HPRTE2.i/october13.b/DVB306.d

Page 5

Date : 13-OCT-93 10:36

Instrument : HPRTE2.i

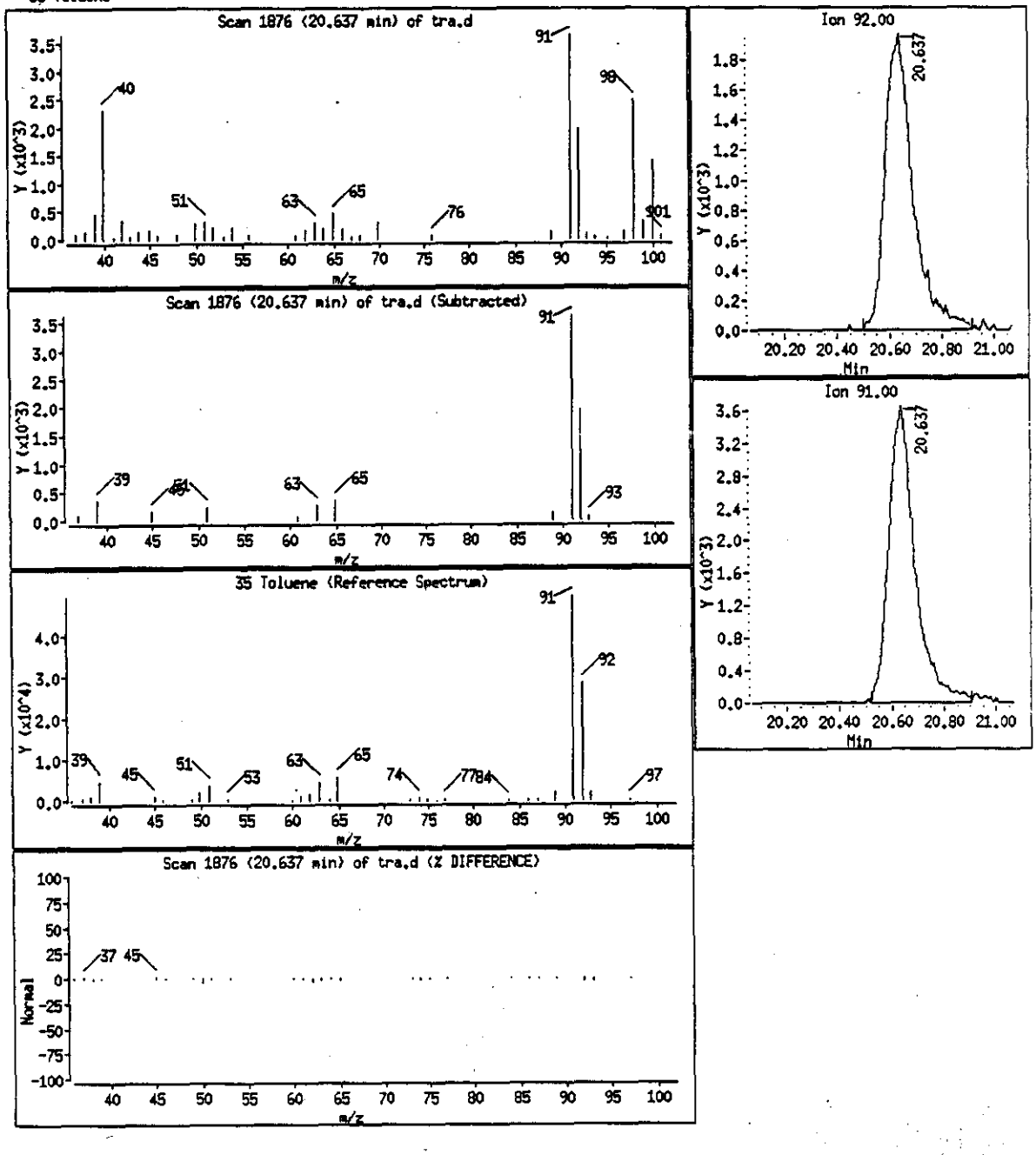
Sample ID : R3622

Column phase : DB-624

Column diameter : 0.54

Volume Injected (uL) : 0.0

35 Toluene



2A- 281

Data File: /chem/HPRTE2.i/october13.b/DVB307.d
Report Date: 01-Dec-1993 15:48

Battelle PNL

Data file : /chem/HPRTE2.i/october13.b/DVB307.d
Lab. Id. : 93-08652D
Quant Type: ISTD
Inj Date : 13-OCT-93 11:15
Autotune Date: light Savings Time
Operator : Gerald A. Ross
Inst ID: HPRTE2.i
Smp Info : 93-08652D (from RTE file >VB307)
Misc Info : R3622D 107AP
Comment :
Method : /chem/HPRTE2.i/october13.b/voaevap.m
Meth Date : 01-Dec-1993 15:47 target
Cal Date : 13-OCT-1993 07:35
Cal File: DVB3B2.d
Als bottle: 0
Dil Factor: 1.000
Target Version: Target 2.40
Integrator: HP RTE
Compound Sublist: all.sub
Sample Matrix: WATER

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
* 1 Bromochloromethane	128.00	13.180	(1.000)	101129	50	
2 Chloromethane	50.00	Compound Not Detected.				
3 Bromomethane	94.00	Compound Not Detected.				
4 Vinyl Chloride	62.00	Compound Not Detected.				
5 Chloroethane	64.00	Compound Not Detected.				
6 Methylene Chloride	84.00	Compound Not Detected.				
7 Acetone	43.00	Compound Not Detected.				
8 Carbon Disulfide	76.00	Compound Not Detected.				
9 1,1-Dichloroethene	96.00	Compound Not Detected.				
10 1,1-Dichloroethane	63.00	Compound Not Detected.				
11 trans-1,2-Dichloroethene	96.00	Compound Not Detected.				
12 cis-1,2-Dichloroethene	61.00	Compound Not Detected.				
13 Chloroform	83.00	Compound Not Detected.				
$ 14 1,2-Dichloroethane-d4	65.00	15.031	(1.140)	154701	48	2400
15 1,2-Dichloroethane	62.00	Compound Not Detected.				
16 2-Butanone	72.00	Compound Not Detected.				
17 1,1,1-Trichloroethane	97.00	Compound Not Detected.				
18 Carbon Tetrachloride	117.00	Compound Not Detected.				
19 Vinyl Acetate	43.00	Compound Not Detected.				
20 Bromodichloromethane	83.00	Compound Not Detected.				
46 Tetrahydrofuran	42.00	Compound Not Detected.				
* 21 1,4-Difluorobenzene	114.00	16.573	(1.000)	429581	50	
22 1,2-Dichloropropane	63.00	Compound Not Detected.				
23 cis-1,3-Dichloropropene	75.00	Compound Not Detected.				
24 Trichloroethene	130.00	Compound Not Detected.				
25 Dibromochloromethane	129.00	Compound Not Detected.				
26 1,1,2-Trichloroethane	97.00	Compound Not Detected.				
27 Benzene	78.00	Compound Not Detected.				
28 trans-1,3-Dichloropropene	75.00	Compound Not Detected.				

Data File: /chem/HPRTE2.i/october13.b/DVB307.d
Report Date: 01-Dec-1993 15:48

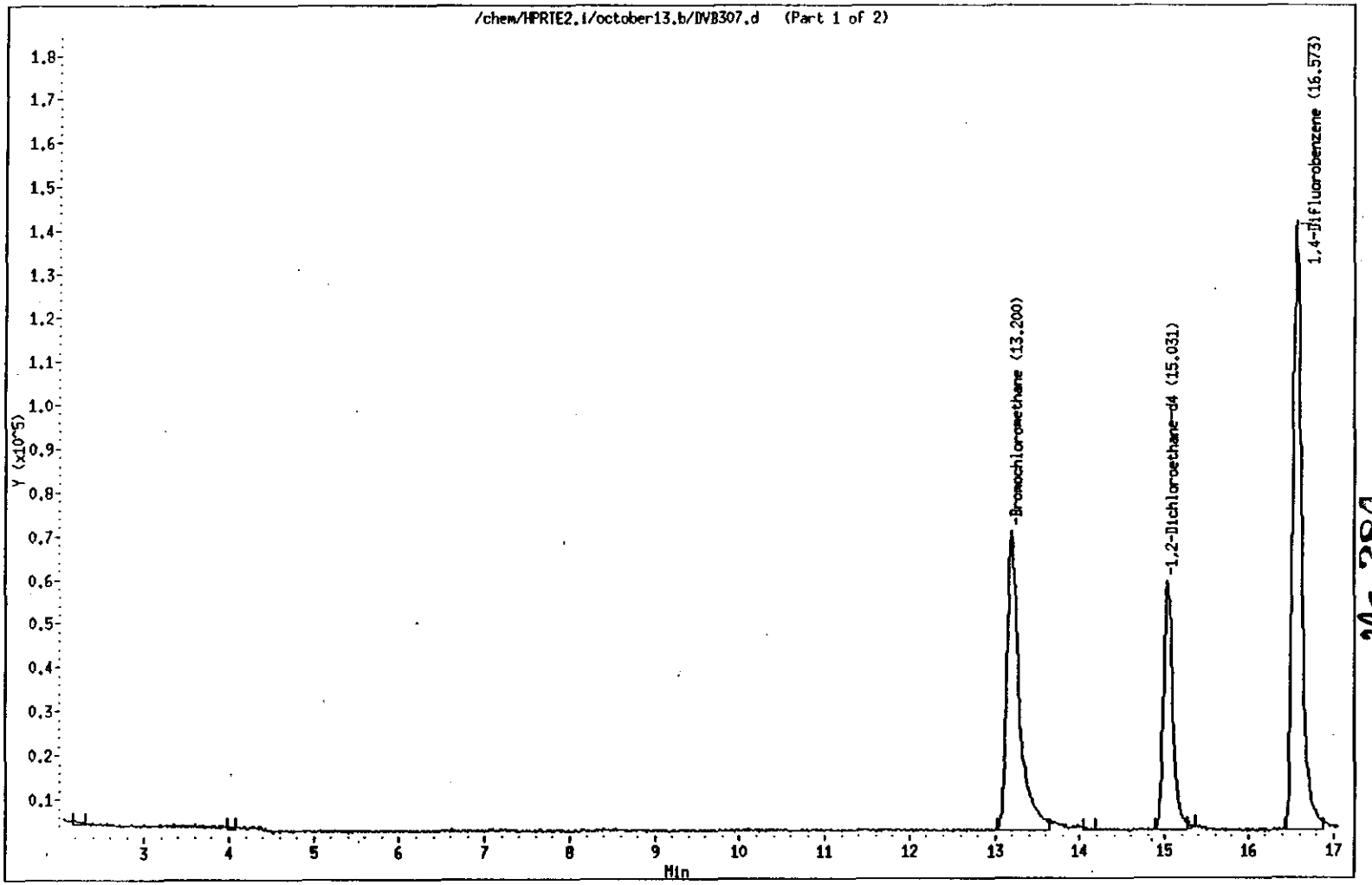
	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
	29 Bromoform	173.00	Compound Not Detected.				
*	30 Chlorobenzene-d5	117.00	24.173	(1.000)	381039	50	
	31 4-Methyl-2-Pentanone	43.00	Compound Not Detected.				
	32 2-Hexanone	43.00	Compound Not Detected.				
	33 Tetrachloroethene	164.00	Compound Not Detected.				
	34 1,1,2,2-Tetrachloroethane	83.00	Compound Not Detected.				
	35 Toluene	92.00	20.622	(0.853)	13841	3	130(a)
$	36 Toluene-d8	98.00	20.462	(0.846)	412610	51	2500
	37 Chlorobenzene	112.00	Compound Not Detected.				
	38 Ethylbenzene	106.00	Compound Not Detected.				
	39 Styrene	104.00	Compound Not Detected.				
	40 m&p-Xylene	106.00	Compound Not Detected.				
	41 o-Xylene	106.00	Compound Not Detected.				
$	42 Bromofluorobenzene	95.00	27.355	(1.132)	267408	50	2500
	43 Isopropylbenzene	105.00	Compound Not Detected.				
	44 1,3,5-Trimethylbenzene	105.00	Compound Not Detected.				
	45 1,2,4-Trimethylbenzene	105.00	Compound Not Detected.				
	47 1,2,3-Trimethylbenzene	105.00	Compound Not Detected.				

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: /chem/HPRTE2.i/october13.b/DVB307.d
Date : 13-OCT-93 11:15
Instrument : HPRTE2.i
Sample ID : R36220
Column phase : DB-624
Volume Injected (uL) : 0.0

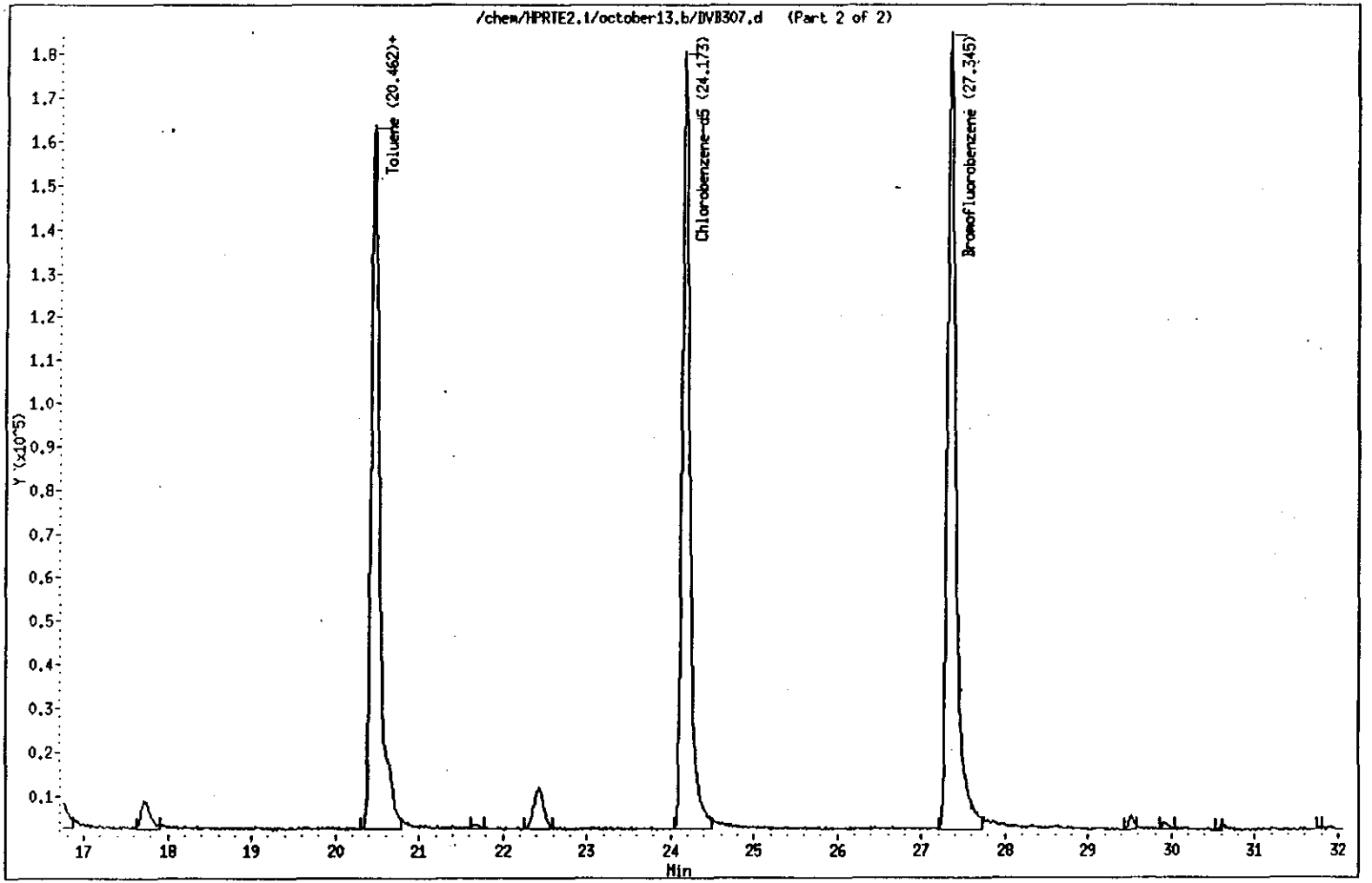
Column diameter : 0.54



A-284

Data File: /chem/HPRTE2.i/october13.b/DVB307.d
Date : 13-OCT-93 11:15
Instrument : HPRTE2.i
Sample ID : R36220
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



Data File: /chem/HPRTE2.i/october13.b/DVB307.d

Page 5

Date : 13-OCT-93 11:15

Instrument : HPRTE2.i

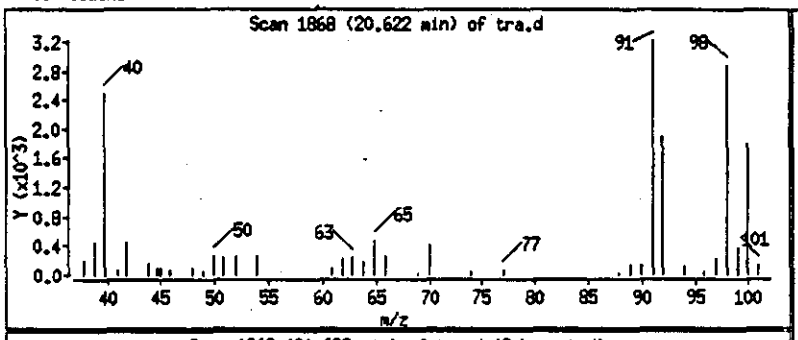
Sample ID : R3622D

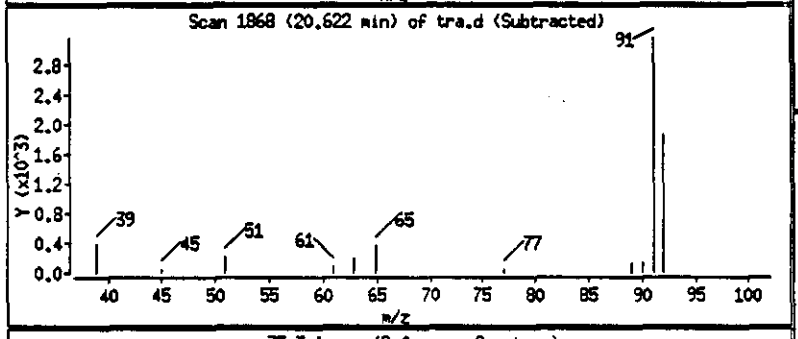
Column phase : DB-624

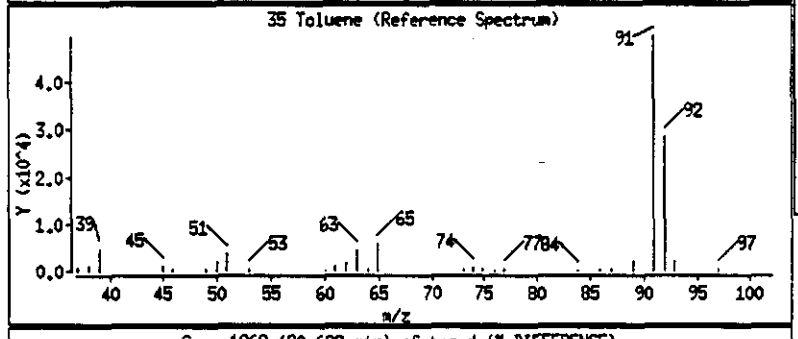
Column diameter : 0.54

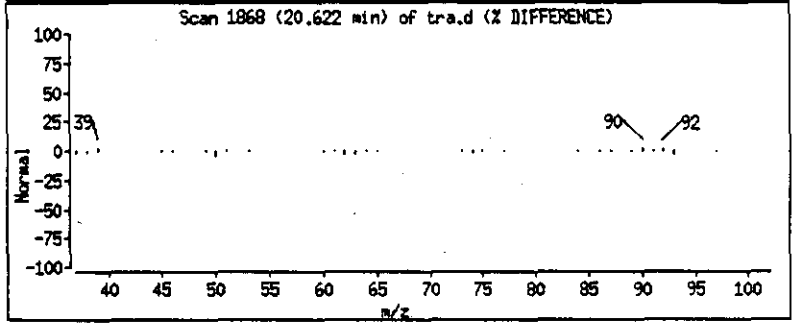
Volume Injected (uL) : 0.0

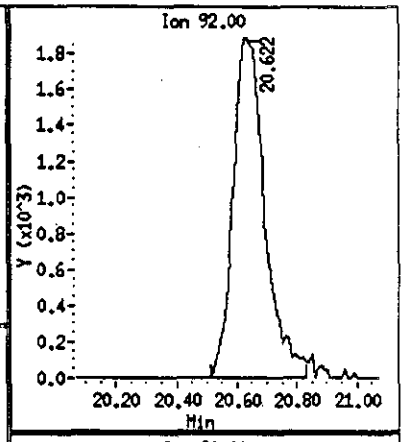
35 Toluene

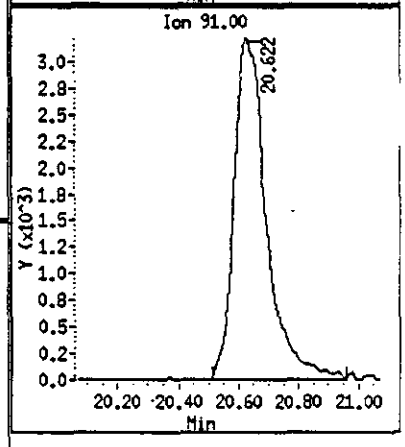












2A-286

Data File: /chem/HPRTE2.i/october13.b/DVB308.d
Report Date: 01-Dec-1993 15:49

Battelle PNL

Data file : /chem/HPRTE2.i/october13.b/DVB308.d
Lab. Id. : 93-08653 Quant Type: ISTD
Inj Date : 13-OCT-93 11:54 Autotune Date: light Savings Time
Operator : Gerald A. Ross Inst ID: HPRTE2.i
Smp Info : 93-08653 (from RTE file >VB308)
Misc Info : R3624 107AP
Comment :
Method : /chem/HPRTE2.i/october13.b/voaevap.m
Meth Date : 01-Dec-1993 15:47 target
Cal Date : 13-OCT-1993 07:35 Cal File: DVB3B2.d
Als bottle: 0
Dil Factor: 1.000 Target Version: Target 2.40
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: WATER

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
* 1 Bromochloromethane	128.00	13.190	(1.000)	99895	50	
2 Chloromethane	50.00	Compound Not Detected.				
3 Bromomethane	94.00	Compound Not Detected.				
4 Vinyl Chloride	62.00	Compound Not Detected.				
5 Chloroethane	64.00	Compound Not Detected.				
6 Methylene Chloride	84.00	Compound Not Detected.				
7 Acetone	43.00	Compound Not Detected.				
8 Carbon Disulfide	76.00	Compound Not Detected.				
9 1,1-Dichloroethene	96.00	Compound Not Detected.				
10 1,1-Dichloroethane	63.00	Compound Not Detected.				
11 trans-1,2-Dichloroethene	96.00	Compound Not Detected.				
12 cis-1,2-Dichloroethene	61.00	Compound Not Detected.				
13 Chloroform	83.00	Compound Not Detected.				
$ 14 1,2-Dichloroethane-d4	65.00	15.041	(1.140)	153395	48	2400
15 1,2-Dichloroethane	62.00	Compound Not Detected.				
16 2-Butanone	72.00	Compound Not Detected.				
17 1,1,1-Trichloroethane	97.00	Compound Not Detected.				
18 Carbon Tetrachloride	117.00	Compound Not Detected.				
19 Vinyl Acetate	43.00	Compound Not Detected.				
20 Bromodichloromethane	83.00	Compound Not Detected.				
46 Tetrahydrofuran	42.00	Compound Not Detected.				
* 21 1,4-Difluorobenzene	114.00	16.553	(1.000)	457612	50	
22 1,2-Dichloropropane	63.00	Compound Not Detected.				
23 cis-1,3-Dichloropropene	75.00	Compound Not Detected.				
24 Trichloroethene	130.00	Compound Not Detected.				
25 Dibromochloromethane	129.00	Compound Not Detected.				
26 1,1,2-Trichloroethane	97.00	Compound Not Detected.				
27 Benzene	78.00	Compound Not Detected.				
28 trans-1,3-Dichloropropene	75.00	Compound Not Detected.				

Data File: /chem/HPRTE2.i/october13.b/DVB308.d
Report Date: 01-Dec-1993 15:49

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
	29 Bromoform	173.00	Compound Not Detected.				
*	30 Chlorobenzene-d5	117.00	24.162	(1.000)	379344	50	
	31 4-Methyl-2-Pentanone	43.00	Compound Not Detected.				
	32 2-Hexanone	43.00	Compound Not Detected.				
	33 Tetrachloroethene	164.00	Compound Not Detected.				
	34 1,1,2,2-Tetrachloroethane	83.00	Compound Not Detected.				
	35 Toluene	92.00	20.621	(0.853)	12505	2	120(a)
$	36 Toluene-d8	98.00	20.462	(0.847)	405425	50	2500
	37 Chlorobenzene	112.00	Compound Not Detected.				
	38 Ethylbenzene	106.00	Compound Not Detected.				
	39 Styrene	104.00	Compound Not Detected.				
	40 m&p-Xylene	106.00	Compound Not Detected.				
	41 o-Xylene	106.00	Compound Not Detected.				
$	42 Bromofluorobenzene	95.00	27.334	(1.131)	267315	50	2500
	43 Isopropylbenzene	105.00	Compound Not Detected.				
	44 1,3,5-Trimethylbenzene	105.00	Compound Not Detected.				
	45 1,2,4-Trimethylbenzene	105.00	Compound Not Detected.				
	47 1,2,3-Trimethylbenzene	105.00	Compound Not Detected.				

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

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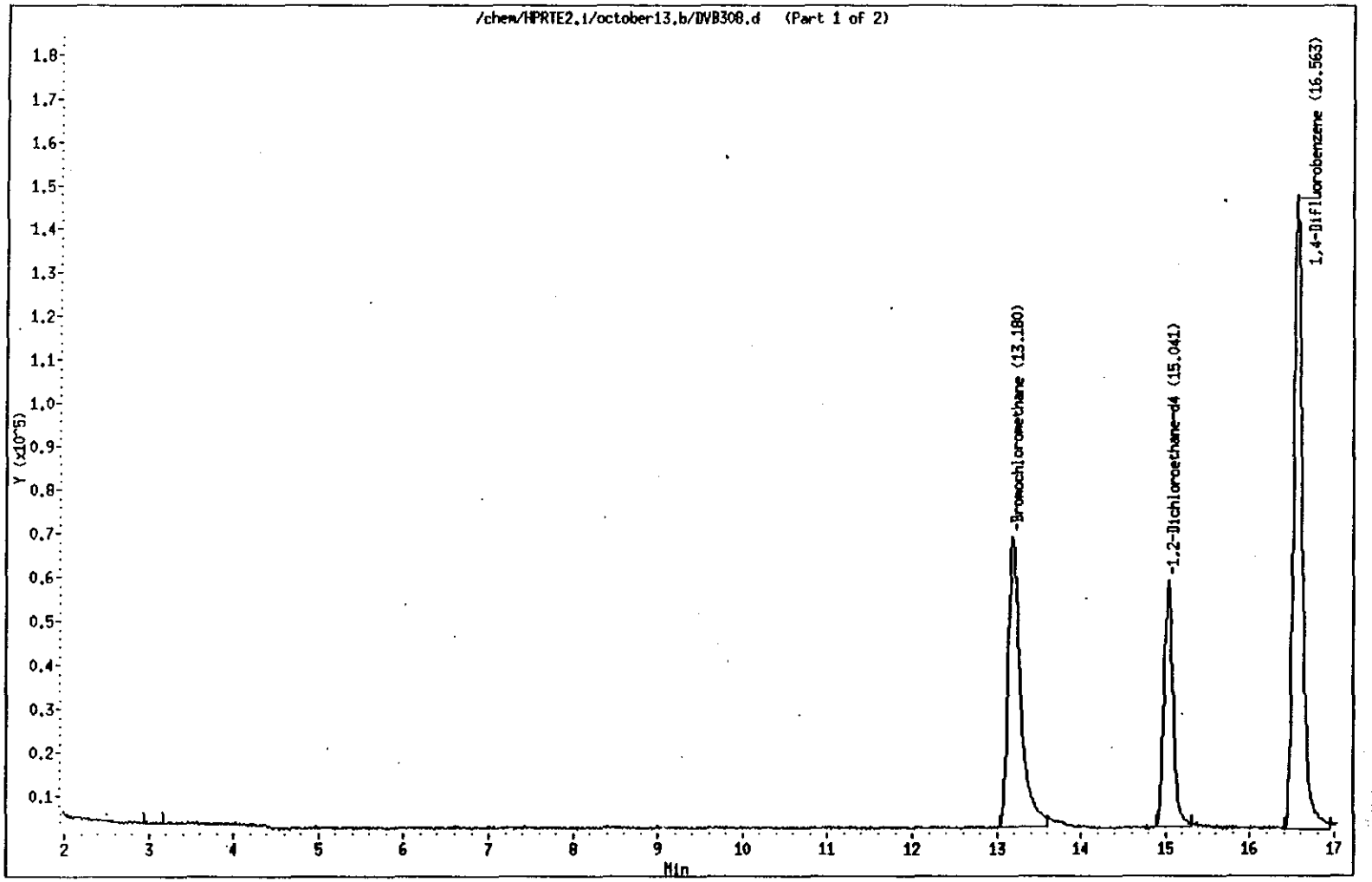
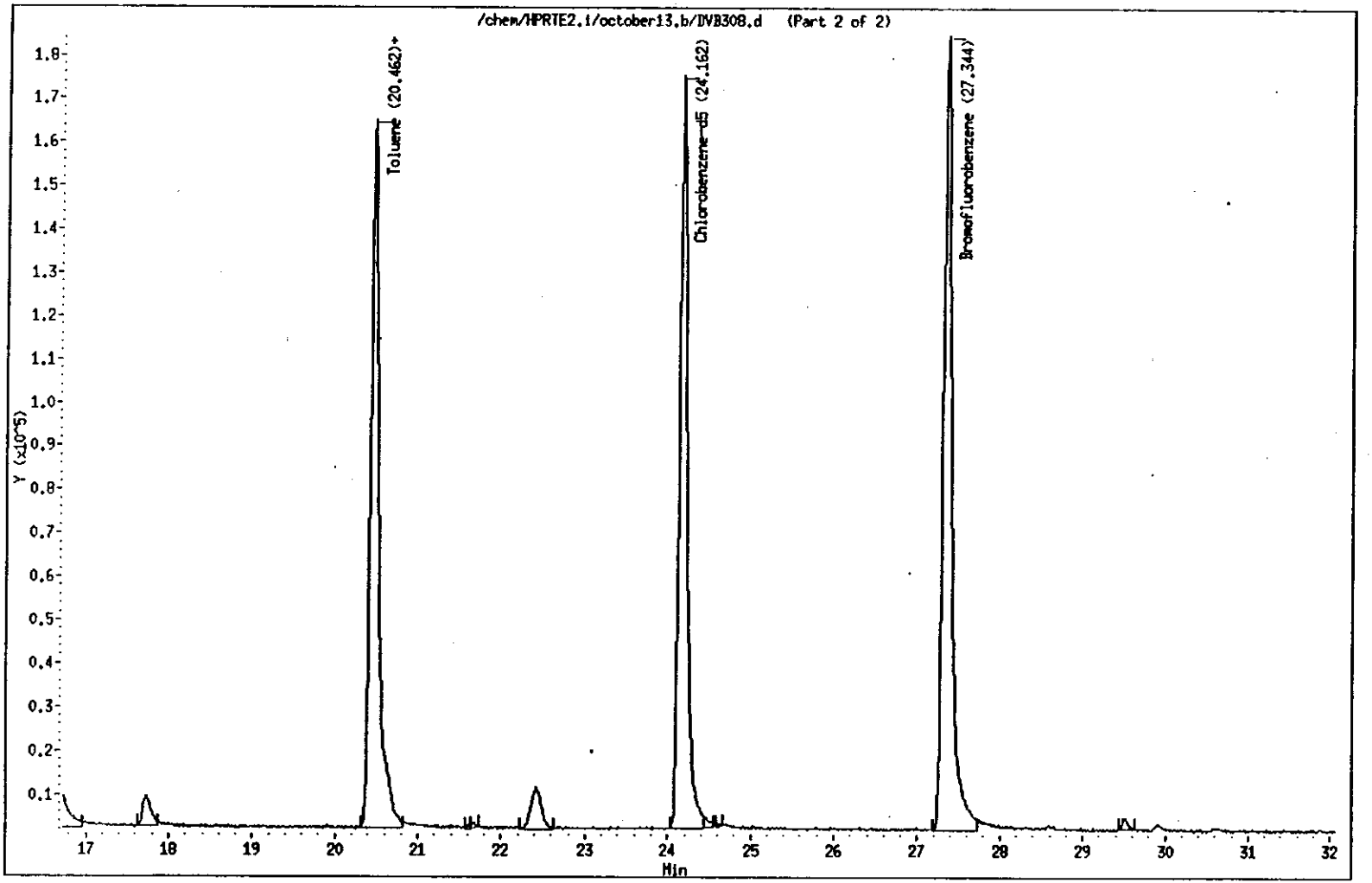
Data File: /chem/HPRTE2.1/october13.b/DVB308.d
Date : 13-OCT-93 11:54
Instrument : HPRTE2.1
Sample ID : R3624
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



Data File: /chem/HPRTE2.i/october13.b/DVB308.d
Date : 13-OCT-93 11:54
Instrument : HPRTE2.i
Sample ID : R3624
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



WHC-SD-WM-DP-053
ADDENDUM 2A REV. 0

D03-095

Data File: /chem/HPRTE2.i/october13.b/DVB308.d

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Date : 13-OCT-93 11:54

Instrument : HPRTE2.i

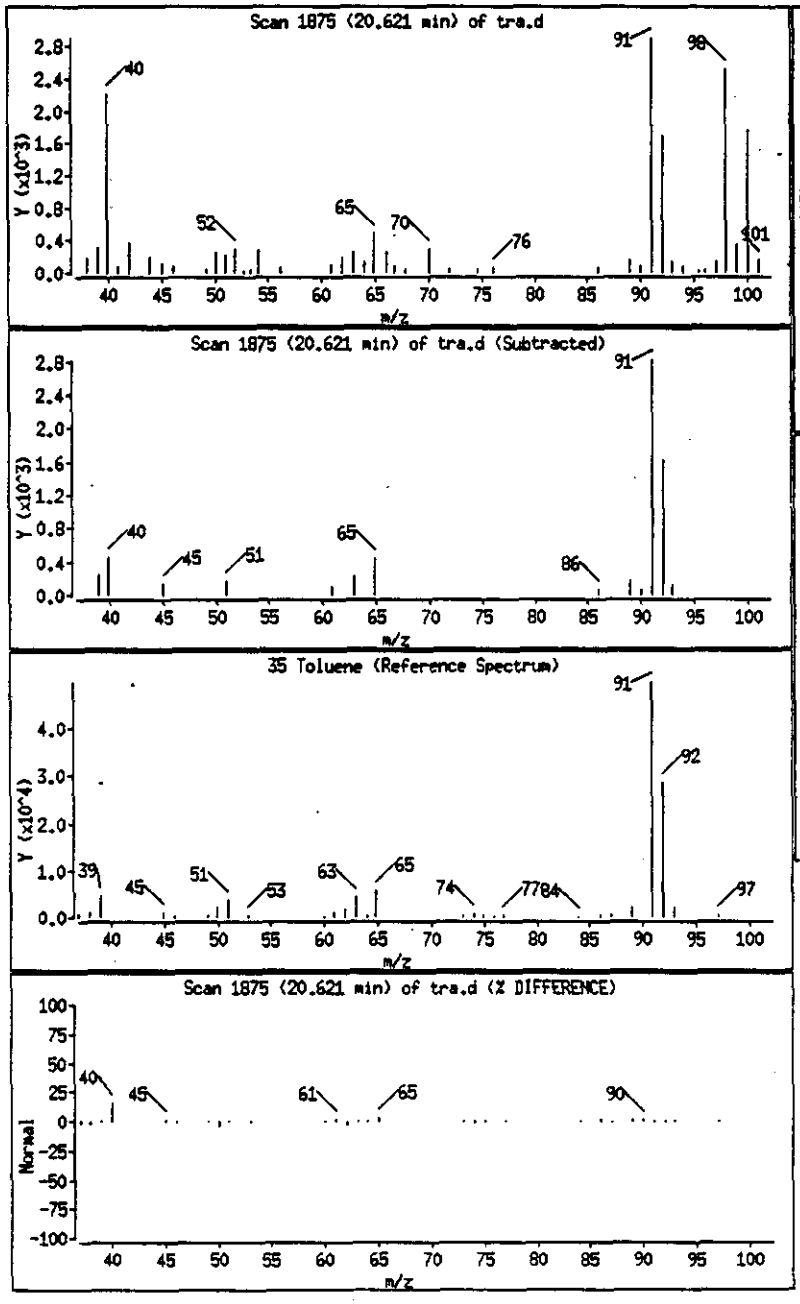
Sample ID : R3624

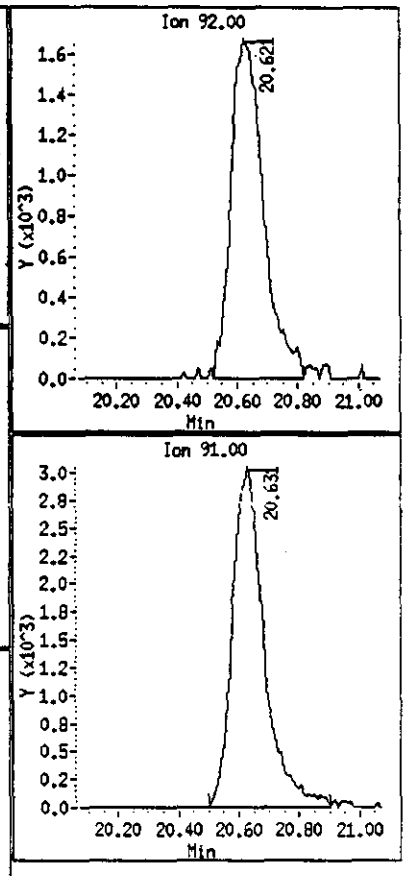
Column phase : DB-624

Column diameter : 0.54

Volume Injected (uL) : 0.0

35 Toluene





2A-291

Data File: /chem/HPRTE2.i/october13.b/DVB309.d
Report Date: 01-Dec-1993 15:49

Battelle PNL

Data file : /chem/HPRTE2.i/october13.b/DVB309.d
Lab. Id. : 93-08653D — Quant Type: ISTD
Inj Date : 13-OCT-1993 12:32 — Autotune Date: light Savings Time
Operator : Gerald A. Ross — Inst ID: HPRTE2.i
Smp Info : 93-08653D (from RTE file >VB309)
Misc Info : R3624D 107AP
Comment :
Method : /chem/HPRTE2.i/october13.b/voaevap.m
Meth Date : 01-Dec-1993 15:47 target
Cal Date : 13-OCT-1993 07:35 — Cal File: DVB3B2.d
Als bottle: 0
Dil Factor: 1.000 — Target Version: Target 2.40
Integrator: HP RTE — Compound Sublist: all.sub
Sample Matrix: WATER

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
*	1 Bromochloromethane	128.00	13.217	(1.000)	97464	50	
	2 Chloromethane	50.00	Compound Not Detected.				
	3 Bromomethane	94.00	Compound Not Detected.				
	4 Vinyl Chloride	62.00	Compound Not Detected.				
	5 Chloroethane	64.00	Compound Not Detected.				
	6 Methylene Chloride	84.00	Compound Not Detected.				
	7 Acetone	43.00	Compound Not Detected.				
	8 Carbon Disulfide	76.00	Compound Not Detected.				
	9 1,1-Dichloroethene	96.00	Compound Not Detected.				
	10 1,1-Dichloroethane	63.00	Compound Not Detected.				
	11 trans-1,2-Dichloroethene	96.00	Compound Not Detected.				
	12 cis-1,2-Dichloroethene	61.00	Compound Not Detected.				
	13 Chloroform	83.00	Compound Not Detected.				
$	14 1,2-Dichloroethane-d4	65.00	15.028	(1.137)	149744	48	2400
	15 1,2-Dichloroethane	62.00	Compound Not Detected.				
	16 2-Butanone	72.00	Compound Not Detected.				
	17 1,1,1-Trichloroethane	97.00	Compound Not Detected.				
	18 Carbon Tetrachloride	117.00	Compound Not Detected.				
	19 Vinyl Acetate	43.00	Compound Not Detected.				
	20 Bromodichloromethane	83.00	Compound Not Detected.				
	46 Tetrahydrofuran	42.00	Compound Not Detected.				
*	21 1,4-Difluorobenzene	114.00	16.560	(1.000)	444113	50	
	22 1,2-Dichloropropane	63.00	Compound Not Detected.				
	23 cis-1,3-Dichloropropene	75.00	Compound Not Detected.				
	24 Trichloroethene	130.00	Compound Not Detected.				
	25 Dibromochloromethane	129.00	Compound Not Detected.				
	26 1,1,2-Trichloroethane	97.00	Compound Not Detected.				
	27 Benzene	78.00	Compound Not Detected.				
	28 trans-1,3-Dichloropropene	75.00	Compound Not Detected.				

Data File: /chem/HPRTE2.i/october13.b/DVB309.d
Report Date: 01-Dec-1993 15:49

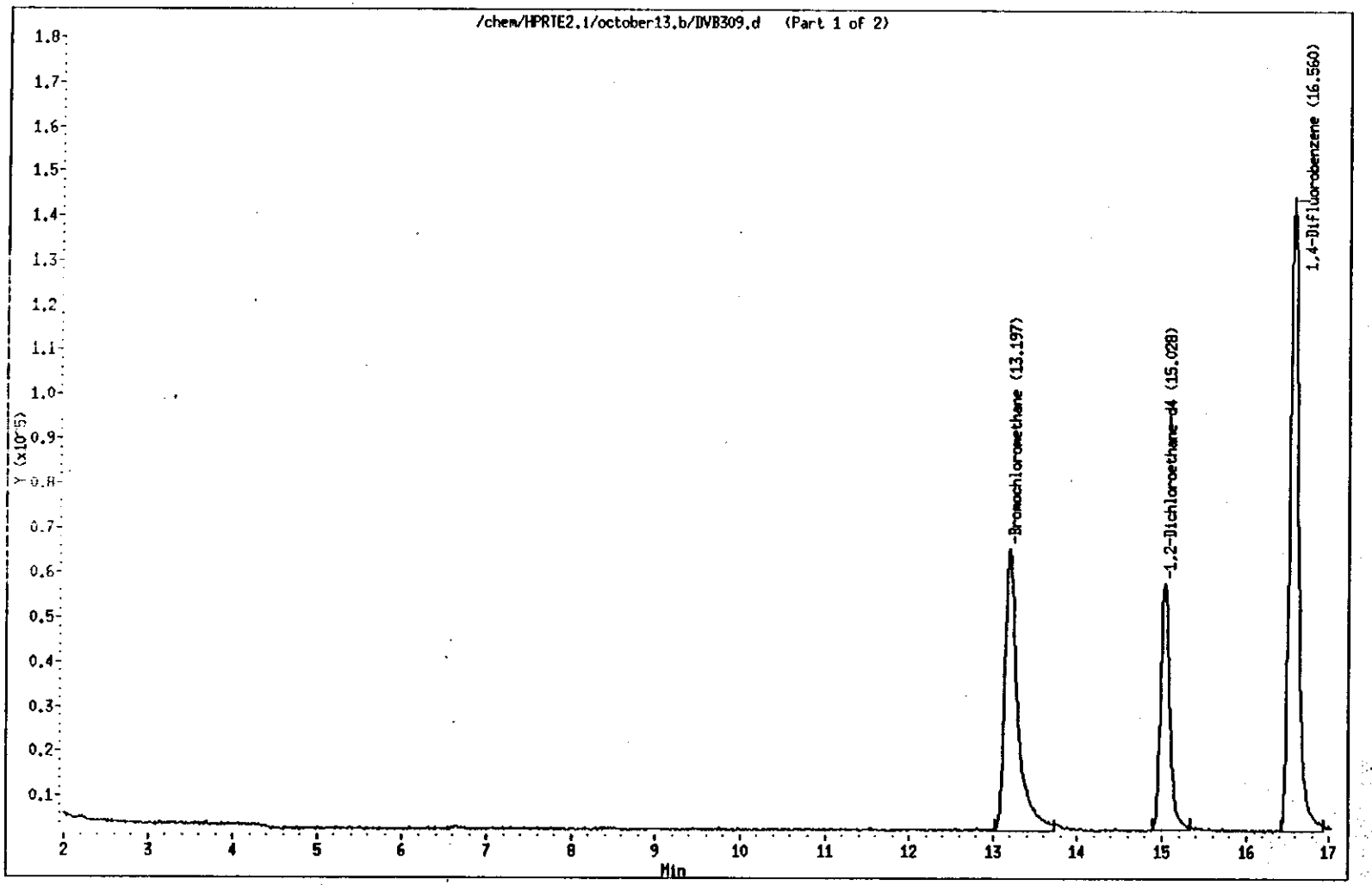
	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
	29 Bromoform	173.00	Compound Not Detected.				
*	30 Chlorobenzene-d5	117.00	24.179	(1.000)	368765	50	
	31 4-Methyl-2-Pentanone	43.00	Compound Not Detected.				
	32 2-Hexanone	43.00	Compound Not Detected.				
	33 Tetrachloroethene	164.00	Compound Not Detected.				
	34 1,1,2,2-Tetrachloroethane	83.00	Compound Not Detected.				
	35 Toluene	92.00	20.638	(0.854)	12638	2	130(a)
$	36 Toluene-d8	98.00	20.459	(0.846)	402267	51	2600
	37 Chlorobenzene	112.00	Compound Not Detected.				
	38 Ethylbenzene	106.00	Compound Not Detected.				
	39 Styrene	104.00	Compound Not Detected.				
	40 m&p-Xylene	106.00	Compound Not Detected.				
	41 o-Xylene	106.00	Compound Not Detected.				
$	42 Bromofluorobenzene	95.00	27.351	(1.131)	261307	50	2500
	43 Isopropylbenzene	105.00	Compound Not Detected.				
	44 1,3,5-Trimethylbenzene	105.00	Compound Not Detected.				
	45 1,2,4-Trimethylbenzene	105.00	Compound Not Detected.				
	47 1,2,3-Trimethylbenzene	105.00	Compound Not Detected.				

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: /chem/HPRTE2.i/october13.b/DVB309.d
Date : 13-OCT-1993 12:32
Instrument : HPRTE2.i
Sample ID : R3624D
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



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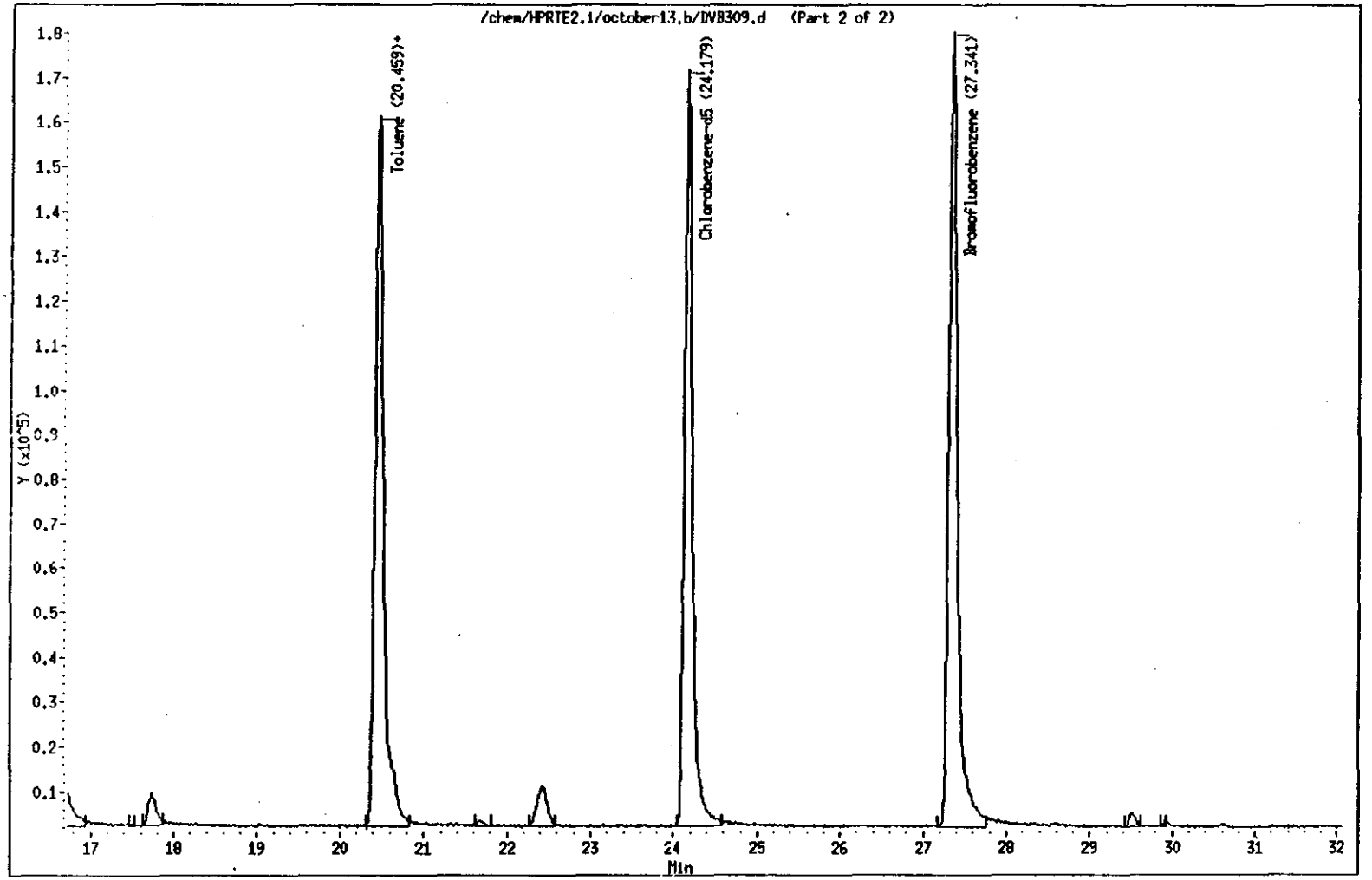
WEC-SD-WV-93-053
ADDENDUM 2A-REV. 0

Data File: /chem/HPRTE2.1/october13.b/DVB309.d
Date : 13-OCT-1993 12:32
Instrument : HPRTE2.1
Sample ID : R3624D
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



ADDENDUM 2 REV. 0

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D03-100

Data File: /chem/HPRTE2.i/october13.b/DVB309.d

Date : 13-OCT-1993 12:32

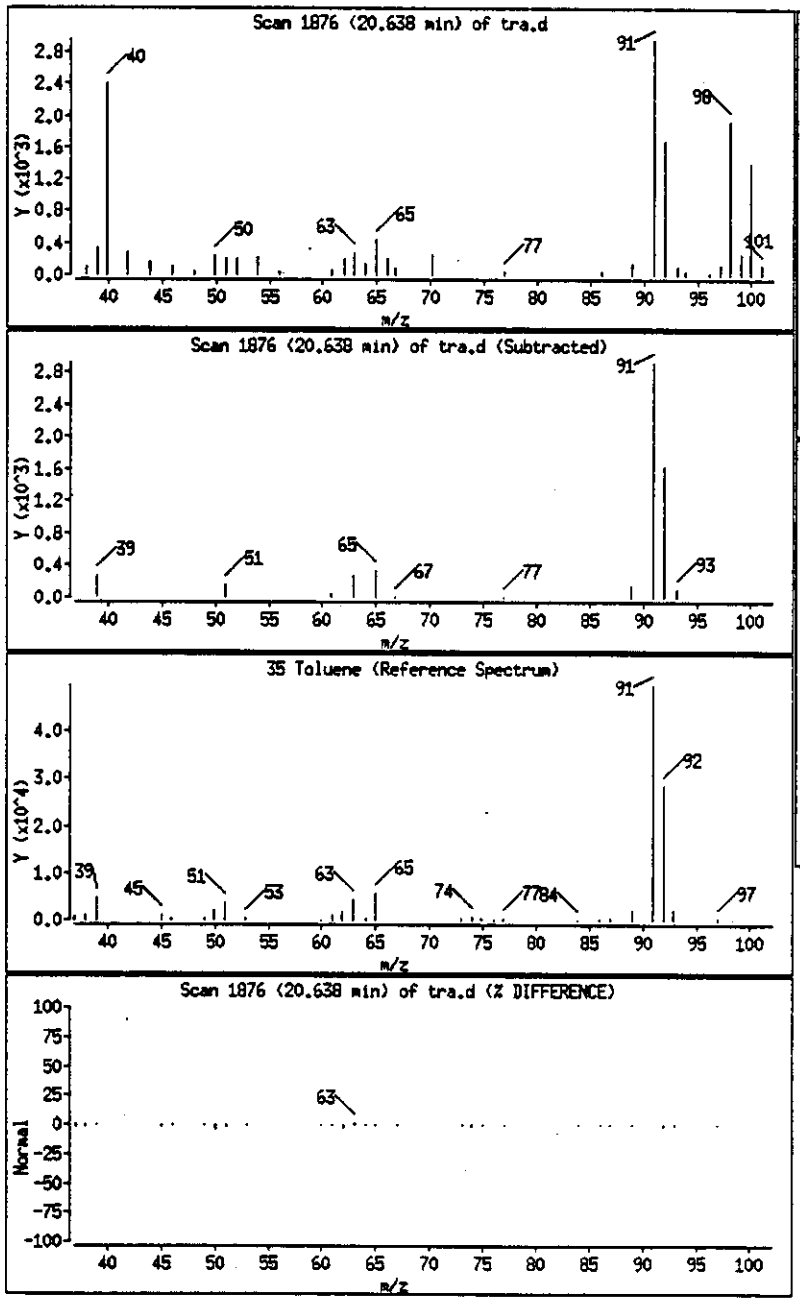
Instrument : HPRTE2.i

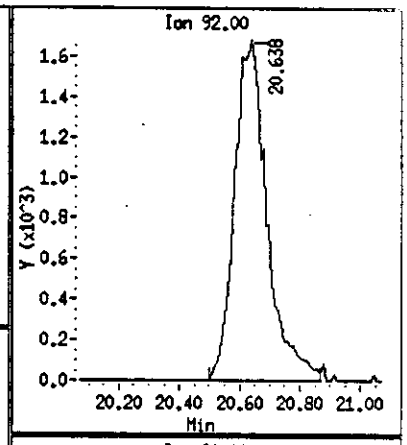
Sample ID : R3624B

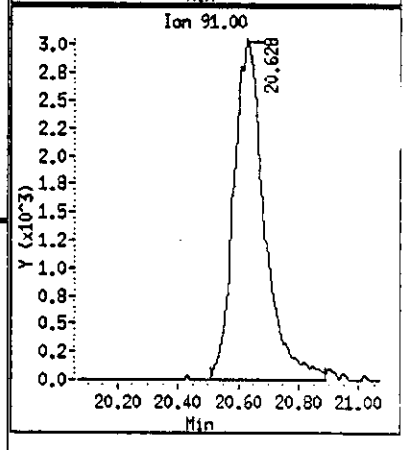
Column phase : DB-624 Column diameter : 0.54

Volume Injected (uL) : 0.0

35 Toluene







Data File: /chem/HPRTE2.i/october13.b/DVB310.d
Report Date: 01-Dec-1993 15:49

Battelle PNL

Data file : /chem/HPRTE2.i/october13.b/DVB310.d
Lab. Id. : 93-08654 Quant Type: ISTD
Inj Date : 13-OCT-93 13:10 Autotune Date: light Savings Time
Operator : Gerald A. Ross Inst ID: HPRTE2.i
Smp Info : 93-08654 (from RTE file >VB310)
Misc Info : R3626 107AP
Comment :
Method : /chem/HPRTE2.i/october13.b/voaevap.m
Meth Date : 01-Dec-1993 15:47 target
Cal Date : 13-OCT-1993 07:35 Cal File: DVB3B2.d
Als bottle: 0
Dil Factor: 1.000 Target Version: Target 2.40
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: WATER

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
* 1 Bromochloromethane	128.00	13.184	(1.000)	97363	50	
2 Chloromethane	50.00	Compound Not Detected.				
3 Bromomethane	94.00	Compound Not Detected.				
4 Vinyl Chloride	62.00	Compound Not Detected.				
5 Chloroethane	64.00	Compound Not Detected.				
6 Methylene Chloride	84.00	Compound Not Detected.				
7 Acetone	43.00	Compound Not Detected.				
8 Carbon Disulfide	76.00	Compound Not Detected.				
9 1,1-Dichloroethene	96.00	Compound Not Detected.				
10 1,1-Dichloroethane	63.00	Compound Not Detected.				
11 trans-1,2-Dichloroethene	96.00	Compound Not Detected.				
12 cis-1,2-Dichloroethene	61.00	Compound Not Detected.				
13 Chloroform	83.00	Compound Not Detected.				
$ 14 1,2-Dichloroethane-d4	65.00	15.025	(1.140)	148985	48	2400
15 1,2-Dichloroethane	62.00	Compound Not Detected.				
16 2-Butanone	72.00	Compound Not Detected.				
17 1,1,1-Trichloroethane	97.00	Compound Not Detected.				
18 Carbon Tetrachloride	117.00	Compound Not Detected.				
19 Vinyl Acetate	43.00	Compound Not Detected.				
20 Bromodichloromethane	83.00	Compound Not Detected.				
46 Tetrahydrofuran	42.00	Compound Not Detected.				
* 21 1,4-Difluorobenzene	114.00	16.537	(1.000)	442956	50	
22 1,2-Dichloropropene	63.00	Compound Not Detected.				
23 cis-1,3-Dichloropropene	75.00	Compound Not Detected.				
24 Trichloroethene	130.00	Compound Not Detected.				
25 Dibromochloromethane	129.00	Compound Not Detected.				
26 1,1,2-Trichloroethane	97.00	Compound Not Detected.				
27 Benzene	78.00	Compound Not Detected.				
28 trans-1,3-Dichloropropene	75.00	Compound Not Detected.				

Data File: /chem/HPRTE2.i/october13.b/DVB310.d
Report Date: 01-Dec-1993 15:49

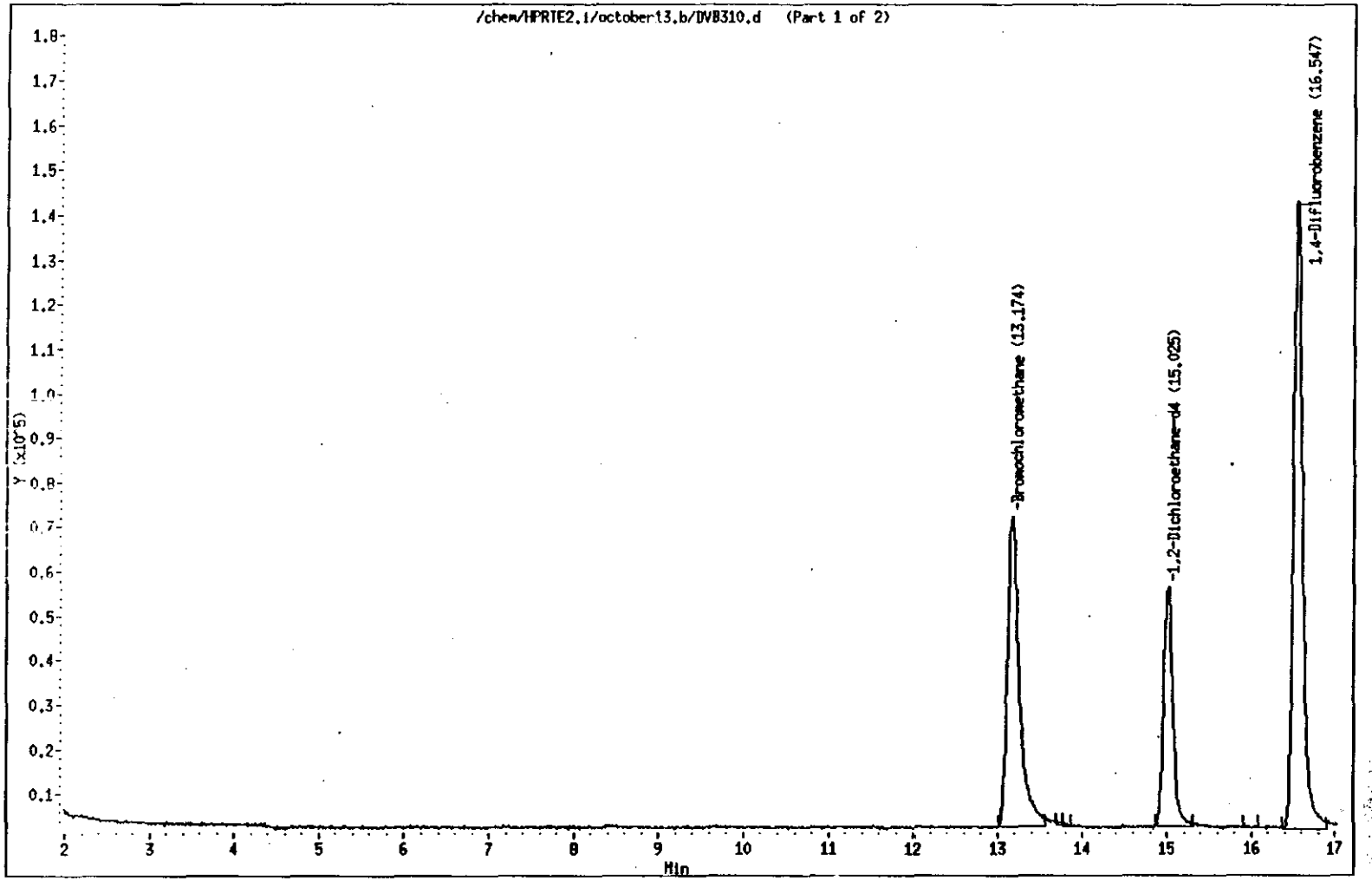
	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
	29 Bromoform	173.00	Compound Not Detected.				
*	30 Chlorobenzene-d5	117.00	24.155	(1.000)	367400	50	
	31 4-Methyl-2-Pentanone	43.00	Compound Not Detected.				
	32 2-Hexanone	43.00	Compound Not Detected.				
	33 Tetrachloroethene	164.00	Compound Not Detected.				
	34 1,1,2,2-Tetrachloroethane	83.00	Compound Not Detected.				
	35 Toluene	92.00	20.605	(0.853)	12507	2	130(a)
$	36 Toluene-d8	98.00	20.445	(0.846)	400169	51	2600
	37 Chlorobenzene	112.00	Compound Not Detected.				
	38 Ethylbenzene	106.00	Compound Not Detected.				
	39 Styrene	104.00	Compound Not Detected.				
	40 m&p-Xylene	106.00	Compound Not Detected.				
	41 o-Xylene	106.00	Compound Not Detected.				
$	42 Bromofluorobenzene	95.00	27.338	(1.132)	260037	50	2500
	43 Isopropylbenzene	105.00	Compound Not Detected.				
	44 1,3,5-Trimethylbenzene	105.00	Compound Not Detected.				
	45 1,2,4-Trimethylbenzene	105.00	Compound Not Detected.				
	47 1,2,3-Trimethylbenzene	105.00	Compound Not Detected.				

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: /chem/HPRTE2.1/october13.b/DVB310.d
Date : 13-OCT-93 13:10
Instrument : HPRTE2.1
Sample ID : R3626
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



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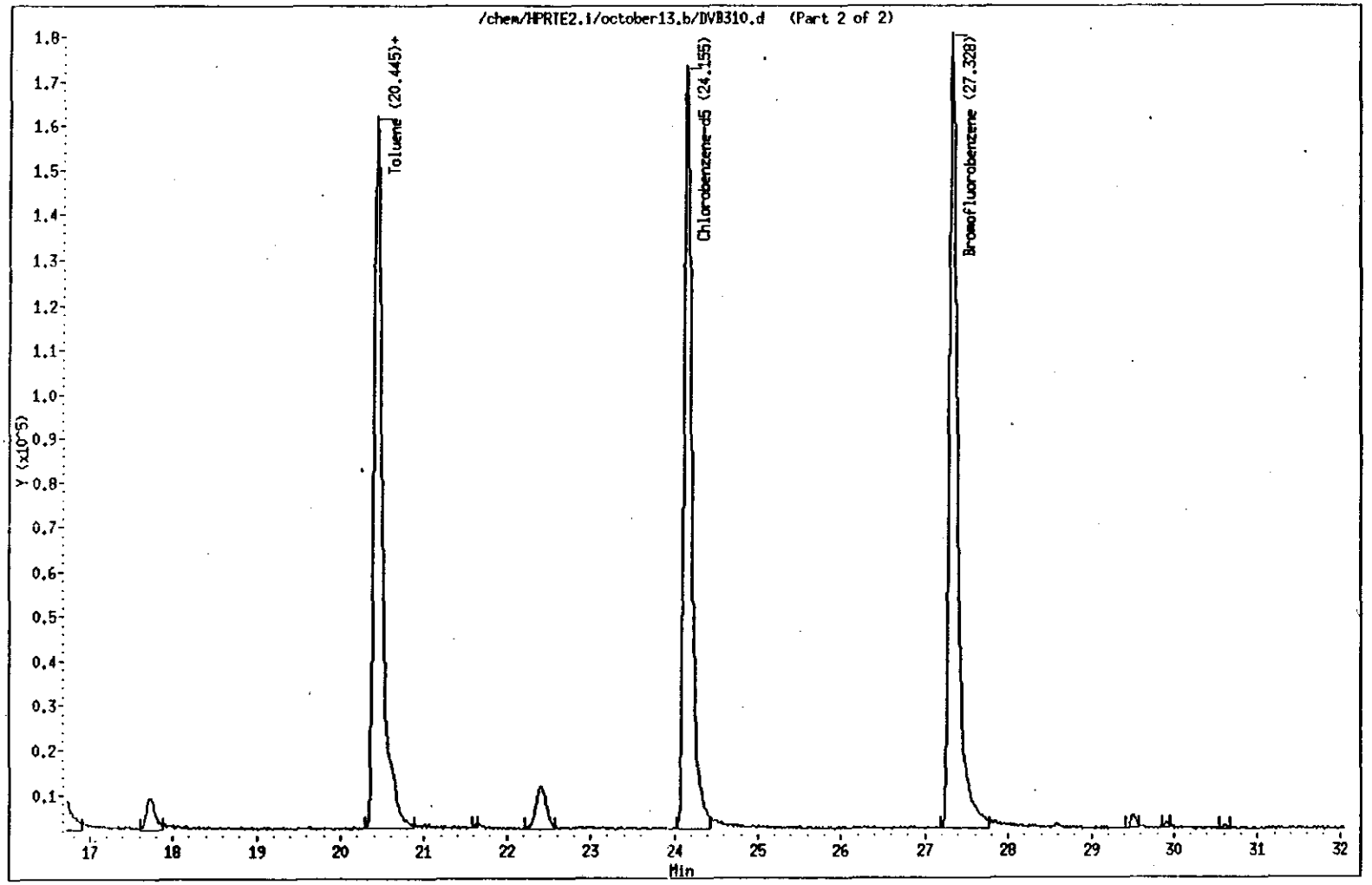
Data File: /chem/HPRTE2.i/october13.b/DVB310.d
Date : 13-OCT-93 13:10
Instrument : HPRTE2.i
Sample ID : R3626
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



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ADDENDUM 2A REV. 0

D03-105

Data File: /chem/HPRTE2.i/october13.b/DVB310.d

Page 5

Date : 13-OCT-93 13:10

Instrument : HPRTE2.i

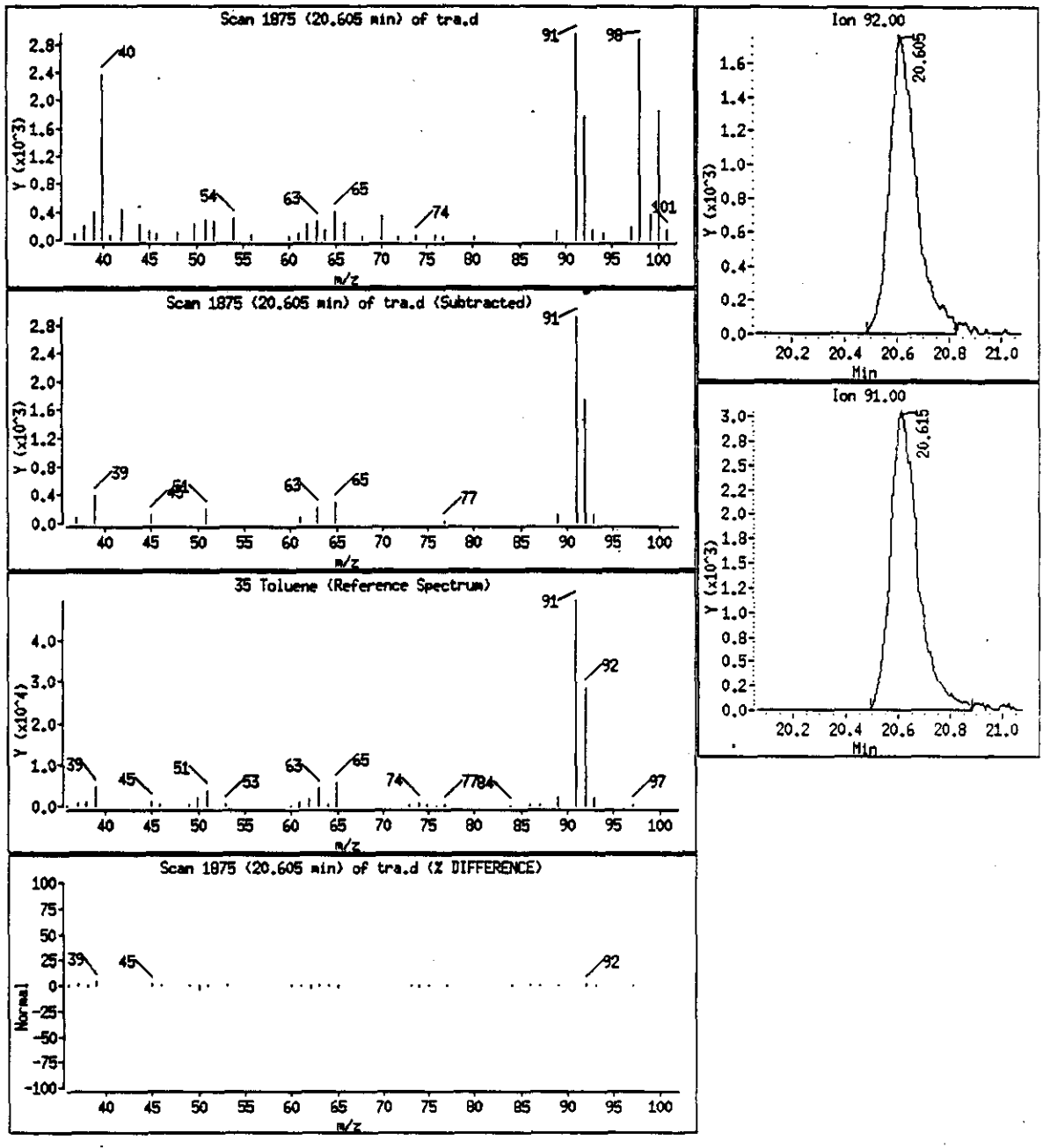
Sample ID : R3626

Column phase : DB-624

Column diameter : 0.54

Volume Injected (uL) : 0.0

35 Toluene



2A- 301

Data File: /chem/HPRTE2.i/october13.b/DVB311.d
Report Date: 01-Dec-1993 15:49

Battelle PNL

Data file : /chem/HPRTE2.i/october13.b/DVB311.d
Lab. Id. : 93-08654D
Quant Type: ISTD
Inj Date : 13-OCT-93 13:49
Autotune Date: light Savings Time
Operator : Gerald A. Ross
Inst ID: HPRTE2.i
Smp Info : 93-08654D (from RTE file >VB311)
Misc Info : R3626D 107AP
Comment :
Method : /chem/HPRTE2.i/october13.b/voaevap.m
Meth Date : 01-Dec-1993 15:47 target
Cal Date : 13-OCT-1993 07:35
Cal File: DVB3B2.d
Als bottle: 0
Dil Factor: 1.000
Target Version: Target 2.40
Integrator: HP RTE
Compound Sublist: all.sub
Sample Matrix: WATER

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
*	1 Bromochloromethane	128.00	13.171	(1.000)	96414	50	
	2 Chloromethane	50.00	Compound Not Detected.				
	3 Bromomethane	94.00	Compound Not Detected.				
	4 Vinyl Chloride	62.00	Compound Not Detected.				
	5 Chloroethane	64.00	Compound Not Detected.				
	6 Methylene Chloride	84.00	Compound Not Detected.				
	7 Acetone	43.00	Compound Not Detected.				
	8 Carbon Disulfide	76.00	Compound Not Detected.				
	9 1,1-Dichloroethene	96.00	Compound Not Detected.				
	10 1,1-Dichloroethane	63.00	Compound Not Detected.				
	11 trans-1,2-Dichloroethene	96.00	Compound Not Detected.				
	12 cis-1,2-Dichloroethene	61.00	Compound Not Detected.				
	13 Chloroform	83.00	Compound Not Detected.				
$	14 1,2-Dichloroethane-d4	65.00	15.001	(1.139)	150677	49	2400
	15 1,2-Dichloroethane	62.00	Compound Not Detected.				
	16 2-Butanone	72.00	Compound Not Detected.				
	17 1,1,1-Trichloroethane	97.00	Compound Not Detected.				
	18 Carbon Tetrachloride	117.00	Compound Not Detected.				
	19 Vinyl Acetate	43.00	Compound Not Detected.				
	20 Bromodichloromethane	83.00	Compound Not Detected.				
	46 Tetrahydrofuran	42.00	Compound Not Detected.				
*	21 1,4-Difluorobenzene	114.00	16.533	(1.000)	446748	50	
	22 1,2-Dichloropropane	63.00	Compound Not Detected.				
	23 cis-1,3-Dichloropropene	75.00	Compound Not Detected.				
	24 Trichloroethene	130.00	Compound Not Detected.				
	25 Dibromochloromethane	129.00	Compound Not Detected.				
	26 1,1,2-Trichloroethane	97.00	Compound Not Detected.				
	27 Benzene	78.00	Compound Not Detected.				
	28 trans-1,3-Dichloropropene	75.00	Compound Not Detected.				

2A-302

Data File: /chem/HPRTE2.i/october13.b/DVB311.d
Report Date: 01-Dec-1993 15:49

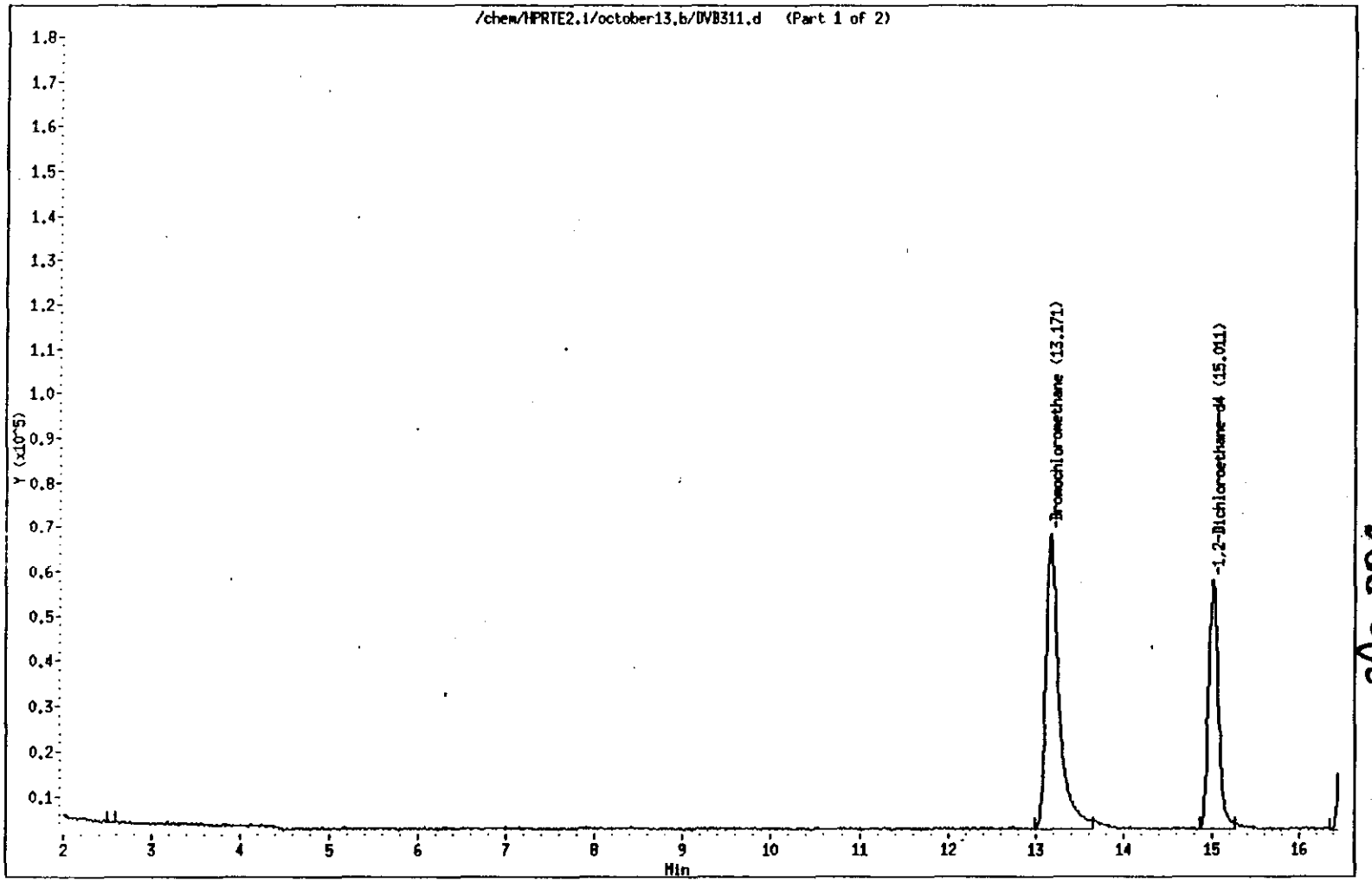
	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
	29 Bromoform	173.00	Compound Not Detected.				
*	30 Chlorobenzene-d5	117.00	24.142	(1.000)	368299	50	
	31 4-Methyl-2-Pentanone	43.00	Compound Not Detected.				
	32 2-Hexanone	43.00	Compound Not Detected.				
	33 Tetrachloroethene	164.00	Compound Not Detected.				
	34 1,1,2,2-Tetrachloroethane	83.00	Compound Not Detected.				
	35 Toluene	92.00	20.602	(0.853)	12456	2	120(a)
$	36 Toluene-d8	98.00	20.432	(0.846)	403585	51	2600
	37 Chlorobenzene	112.00	Compound Not Detected.				
	38 Ethylbenzene	106.00	Compound Not Detected.				
	39 Styrene	104.00	Compound Not Detected.				
	40 m&p-Xylene	106.00	Compound Not Detected.				
	41 o-Xylene	106.00	Compound Not Detected.				
$	42 Bromofluorobenzene	95.00	27.314	(1.131)	260180	50	2500
	43 Isopropylbenzene	105.00	Compound Not Detected.				
	44 1,3,5-Trimethylbenzene	105.00	Compound Not Detected.				
	45 1,2,4-Trimethylbenzene	105.00	Compound Not Detected.				
	47 1,2,3-Trimethylbenzene	105.00	Compound Not Detected.				

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: /chem/HPRTE2.1/october13.b/DVB311.d
Date : 13-OCT-93 13:49
Instrument : HPRTE2.1
Sample ID : R3626D
Column phase : DB-624
Volume Injected (uL) : 0.0

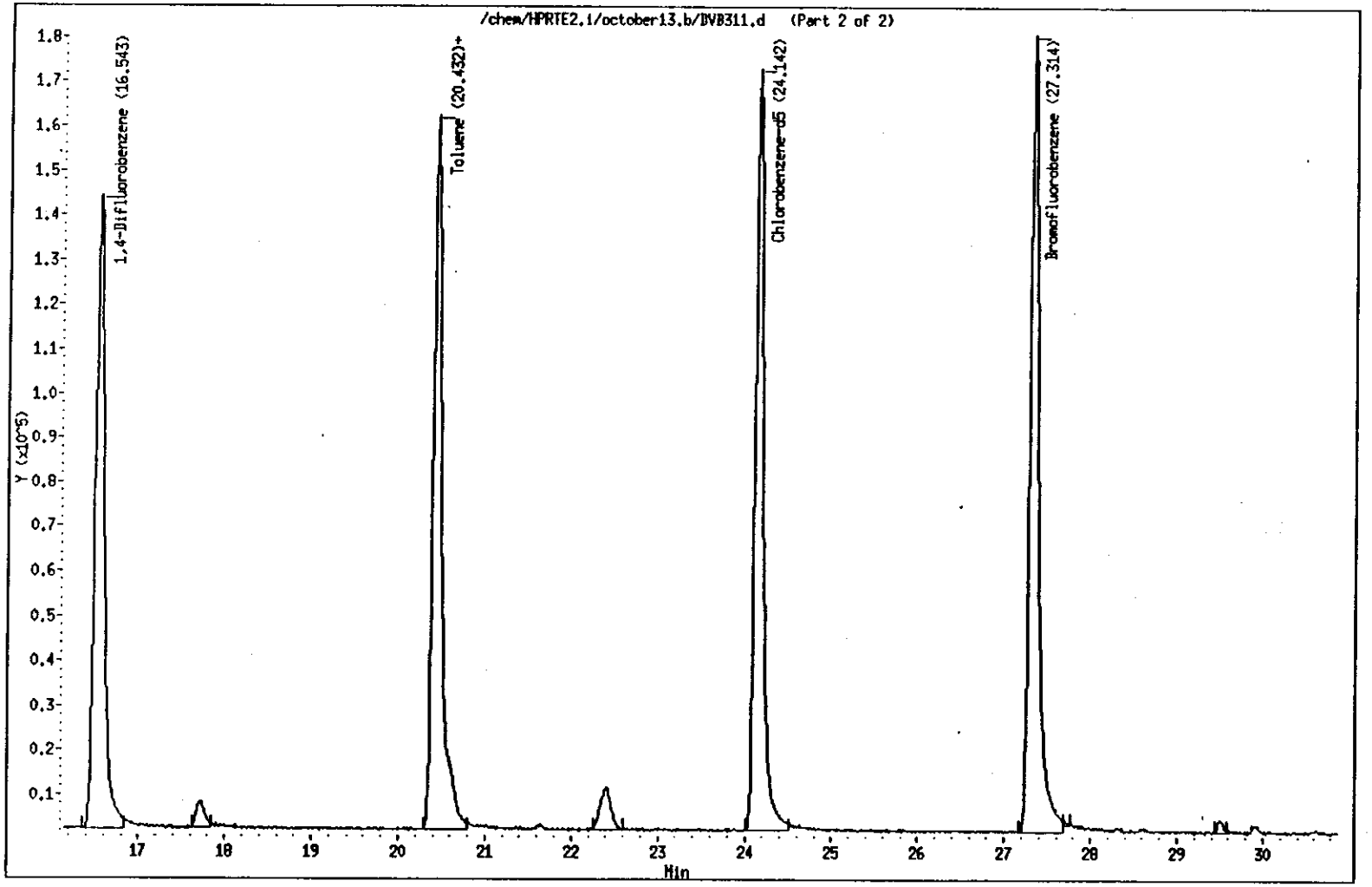
Column diameter : 0.54



2A-304

Data File: /chem/HPRTE2.1/october13.b/DVB311.d
Date : 13-OCT-93 13:49
Instrument : HPRTE2.1
Sample ID : R3626D
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



Data File: /chem/HPRTE2.i/october13.b/DV8311.d

Date : 13-OCT-93 13:49

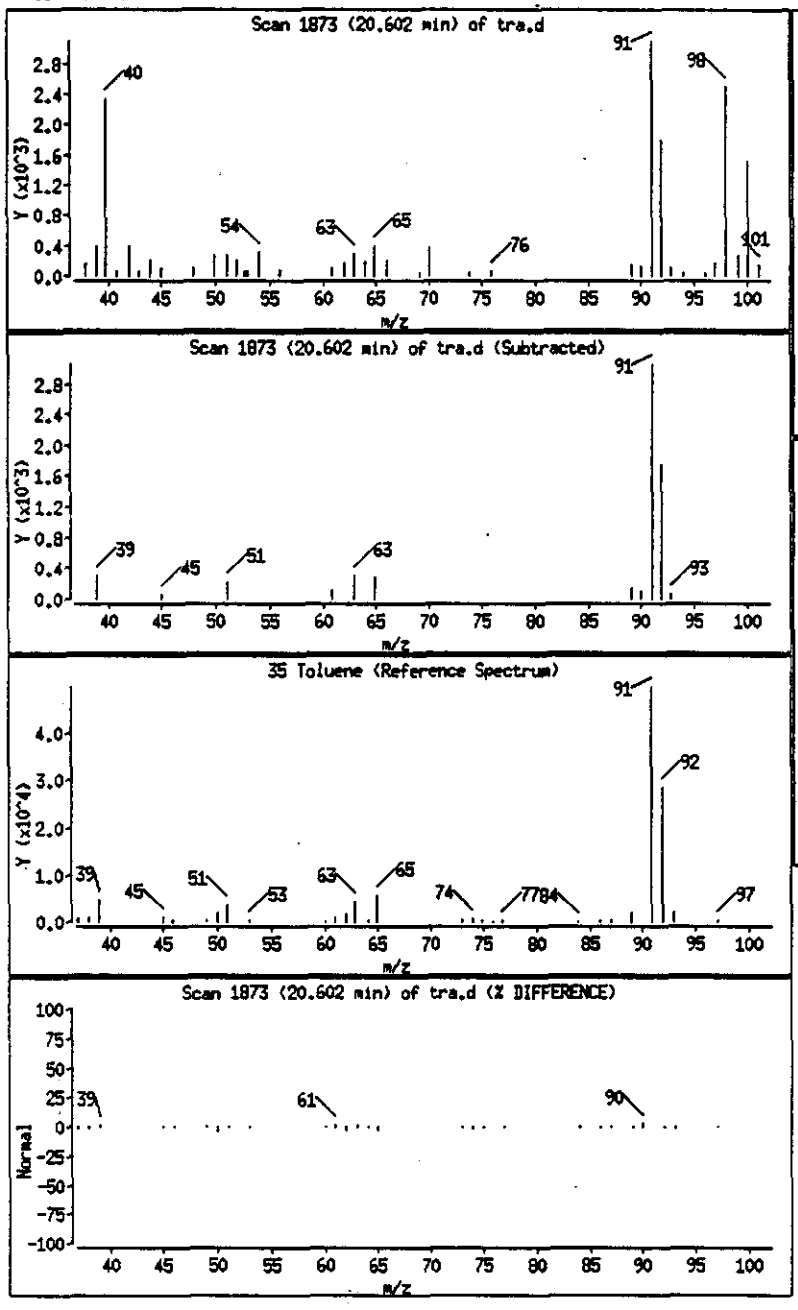
Instrument : HPRTE2.i

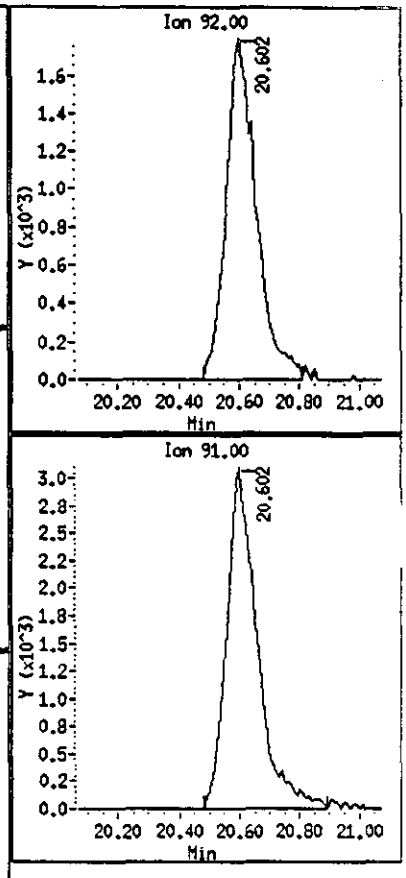
Sample ID : R3626D

Column phase : DB-624 Column diameter : 0.54

Volume Injected (uL) : 0.0

35 Toluene





2A-306

Data File: /chem/HPRTE2.i/october13.b/DVB312.d
Report Date: 01-Dec-1993 15:50

Battelle PNL

Data file : /chem/HPRTE2.i/october13.b/DVB312.d
Lab. Id. : 93-08657 Quant Type: ISTD
Inj Date : 13-OCT-93 14:26 Autotune Date: light Savings Time
Operator : Gerald A. Ross Inst ID: HPRTE2.i
Smp Info : 93-08657 (from RTE file >VB312)
Misc Info : R3631 107AP
Comment :
Method : /chem/HPRTE2.i/october13.b/voaevap.m
Meth Date : 01-Dec-1993 15:47 target
Cal Date : 13-OCT-1993 07:35 Cal File: DVB3B2.d
Als bottle: 0
Dil Factor: 1.000 Target Version: Target 2.40
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: WATER

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
* 1 Bromochloromethane	128.00	13.164	(1.000)	94944	50	
2 Chloromethane	50.00	Compound Not Detected.				
3 Bromomethane	94.00	Compound Not Detected.				
4 Vinyl Chloride	62.00	Compound Not Detected.				
5 Chloroethane	64.00	Compound Not Detected.				
6 Methylene Chloride	84.00	Compound Not Detected.				
7 Acetone	43.00	Compound Not Detected.				
8 Carbon Disulfide	76.00	Compound Not Detected.				
9 1,1-Dichloroethene	96.00	Compound Not Detected.				
10 1,1-Dichloroethane	63.00	Compound Not Detected.				
11 trans-1,2-Dichloroethene	96.00	Compound Not Detected.				
12 cis-1,2-Dichloroethene	61.00	Compound Not Detected.				
13 Chloroform	83.00	Compound Not Detected.				
$ 14 1,2-Dichloroethane-d4	65.00	14.994	(1.139)	146775	48	2400
15 1,2-Dichloroethane	62.00	Compound Not Detected.				
16 2-Butanone	72.00	Compound Not Detected.				
17 1,1,1-Trichloroethane	97.00	Compound Not Detected.				
18 Carbon Tetrachloride	117.00	Compound Not Detected.				
19 Vinyl Acetate	43.00	Compound Not Detected.				
20 Bromodichloromethane	83.00	Compound Not Detected.				
46 Tetrahydrofuran	42.00	Compound Not Detected.				
* 21 1,4-Difluorobenzene	114.00	16.526	(1.000)	433876	50	
22 1,2-Dichloropropane	63.00	Compound Not Detected.				
23 cis-1,3-Dichloropropene	75.00	Compound Not Detected.				
24 Trichloroethene	130.00	Compound Not Detected.				
25 Dibromochloromethane	129.00	Compound Not Detected.				
26 1,1,2-Trichloroethane	97.00	Compound Not Detected.				
27 Benzene	78.00	Compound Not Detected.				
28 trans-1,3-Dichloropropene	75.00	Compound Not Detected.				

2A-307

Data File: /chem/HPRTE2.i/october13.b/DVB312.d
Report Date: 01-Dec-1993 15:50

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
	29 Bromoform	173.00	Compound Not Detected.				
*	30 Chlorobenzene-d5	117.00	24.145	(1.000)	363492	50	
	31 4-Methyl-2-Pentanone	43.00	Compound Not Detected.				
	32 2-Hexanone	43.00	Compound Not Detected.				
	33 Tetrachloroethene	164.00	Compound Not Detected.				
	34 1,1,2,2-Tetrachloroethane	83.00	Compound Not Detected.				
	35 Toluene	92.00	20.604	(0.853)	12993	3	130(a)
$	36 Toluene-d8	98.00	20.435	(0.846)	396914	51	2600
	37 Chlorobenzene	112.00	Compound Not Detected.				
	38 Ethylbenzene	106.00	Compound Not Detected.				
	39 Styrene	104.00	Compound Not Detected.				
	40 m&p-Xylene	106.00	Compound Not Detected.				
	41 o-Xylene	106.00	Compound Not Detected.				
$	42 Bromofluorobenzene	95.00	27.317	(1.131)	257017	50	2500
	43 Isopropylbenzene	105.00	Compound Not Detected.				
	44 1,3,5-Trimethylbenzene	105.00	Compound Not Detected.				
	45 1,2,4-Trimethylbenzene	105.00	Compound Not Detected.				
	47 1,2,3-Trimethylbenzene	105.00	Compound Not Detected.				

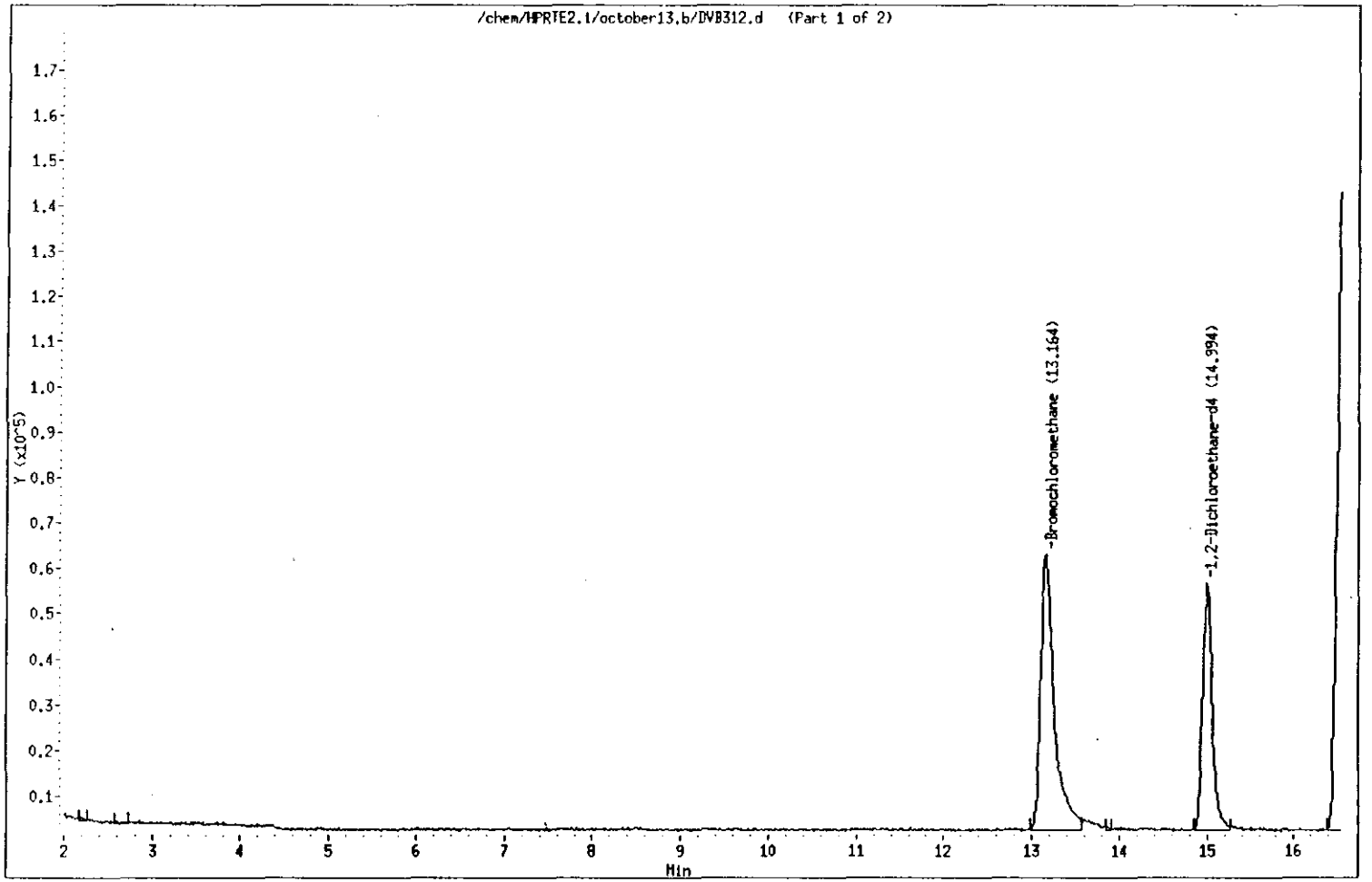
QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

2A- 308

Data File: /chem/HPRTE2.1/october13.b/DVB312.d
Date : 13-OCT-93 14:26
Instrument : HPRTE2.1
Sample ID : R3631
Column phase : DB-624
Volume Injected (uL) : 0.0

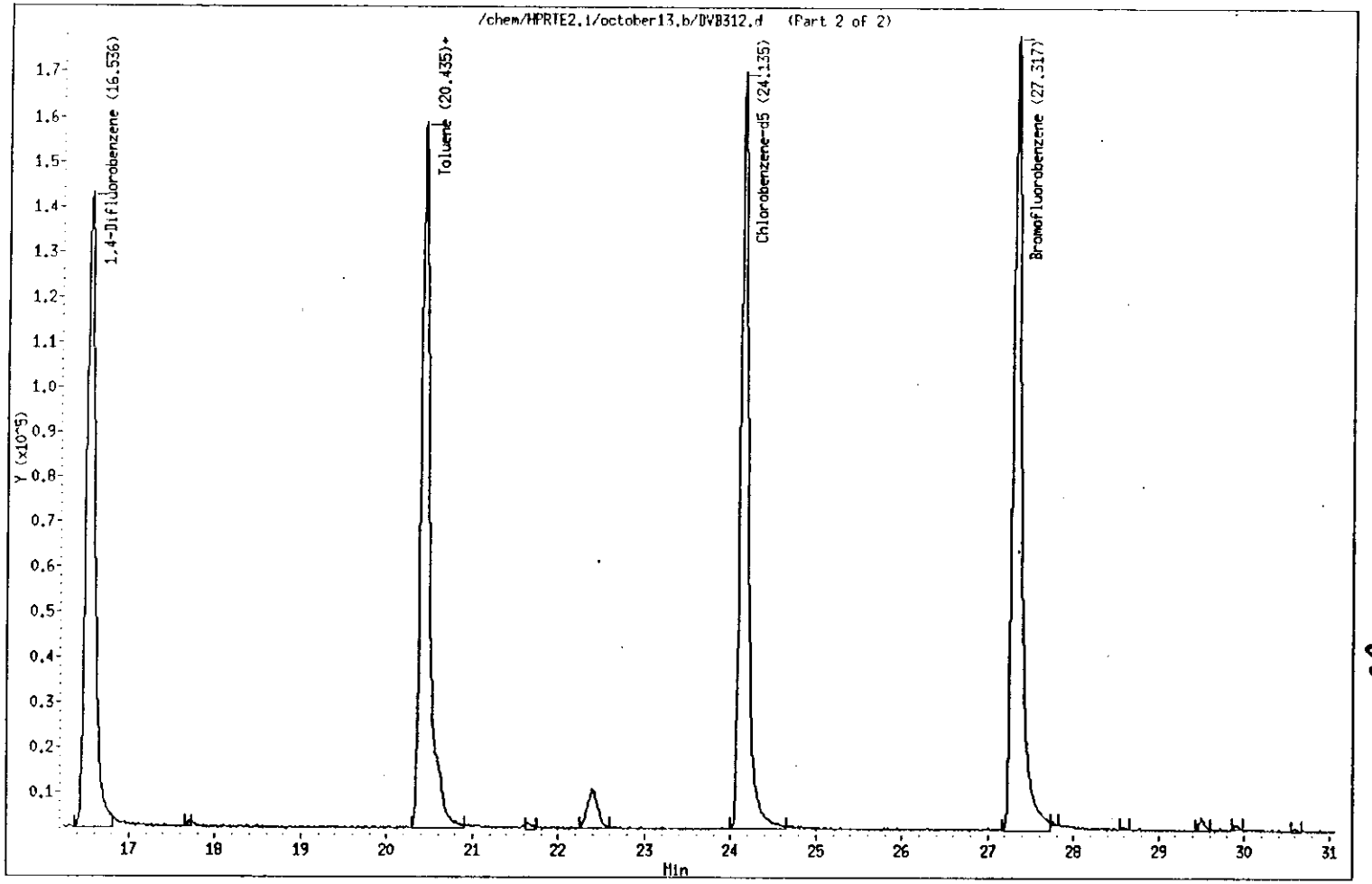
Column diameter : 0.54



dA-309

Data File: /chem/HPRTE2.1/october13.b/DVB312.d
Date : 13-OCT-93 14:26
Instrument : HPRTE2.1
Sample ID : R3631
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



2A - 320

Data File: /chem/HPRTE2.i/october13.b/DVB312.d

Page 5

Date : 13-OCT-93 14:26

Instrument : HPRTE2.i

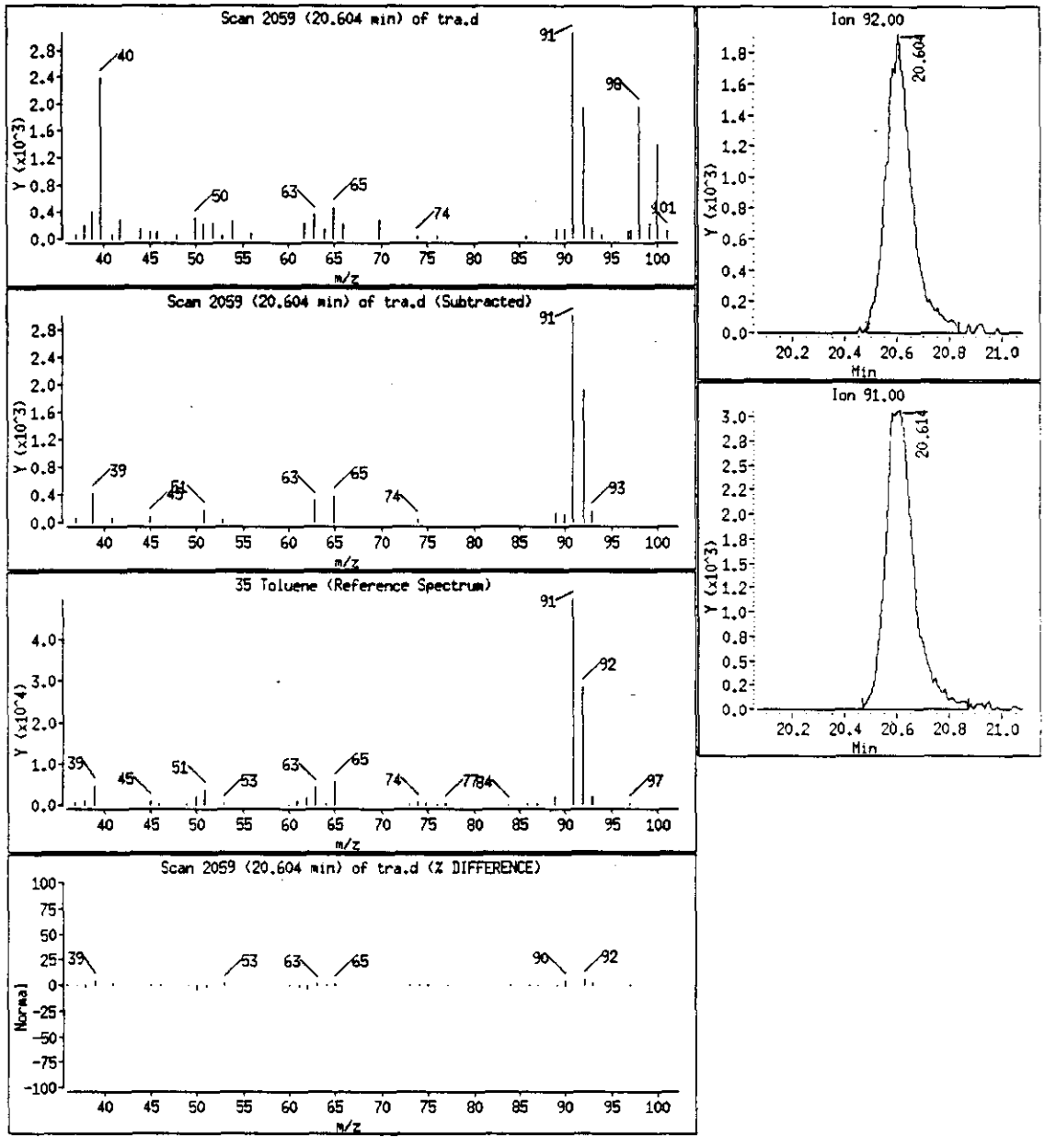
Sample ID : R3631

Column phase : DB-624

Column diameter : 0.54

Volume Injected (uL) : 0.0

35 Toluene

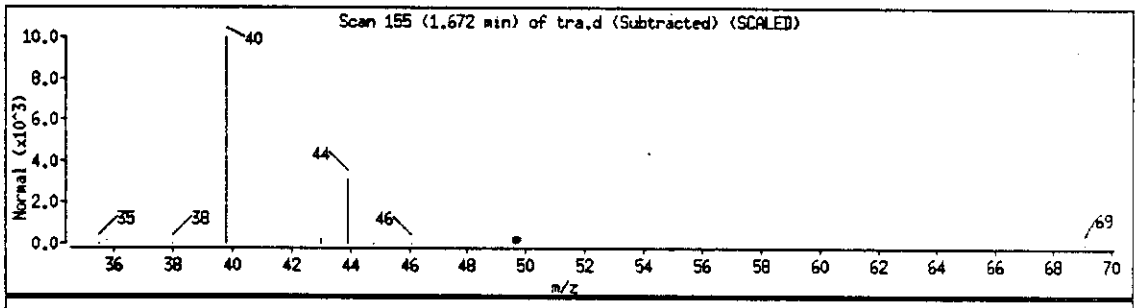


Data File: /chem/HPRTE2.i/october13.b/DVB312.d
Date : 13-OCT-93 14:26
Instrument : HPRTE2.i
Sample ID : R3631
Column phase : DB-624
Volume Injected (uL) : 0.0

Page 6

Column diameter : 0.54

Library Search Compound Match	CAS Number	Library	Lib Entry	Quality
UNKNOWN				

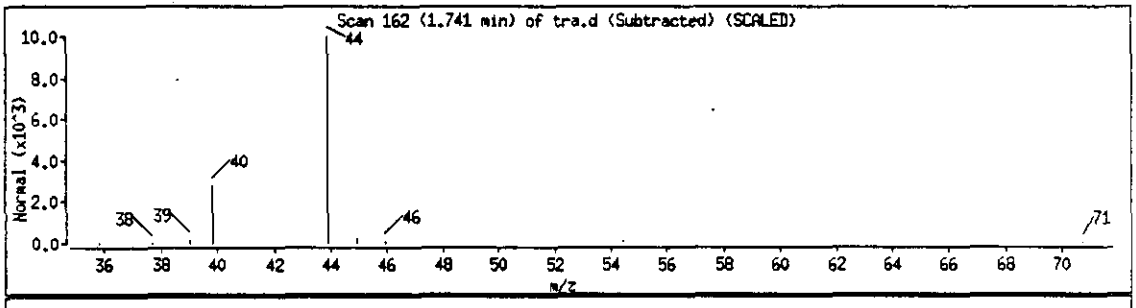


2A - 312

Data File: /chem/HPRTE2.i/october13.b/DVB312.d

Date : 13-OCT-93 14:26
Instrument : HPRTE2.i
Sample ID : R3631
Column phase : DB-624 Column diameter : 0.54
Volume Injected (uL) : 0.0

Library Search Compound Match	CAS Number	Library	Lib Entry	Quality
UNKNOWN				



Data File: /chem/HPRTE2.i/october13.b/DVB313.d
Report Date: 01-Dec-1993 15:50

Battelle PNL

Data file : /chem/HPRTE2.i/october13.b/DVB313.d
Lab. Id. : 93-08657D
Quant Type: ISTD
Inj Date : 13-OCT-93 15:03
Autotune Date: light Savings Time
Operator : Gerald A. Ross
Inst ID: HPRTE2.i
Smp Info : 93-08657D (from RTE file >VB313)
Misc Info : R3631D 107AP
Comment :
Method : /chem/HPRTE2.i/october13.b/voaevap.m
Meth Date : 01-Dec-1993 15:47 target
Cal Date : 13-OCT-1993 07:35
Cal File: DVB3B2.d
Als bottle: 0
Dil Factor: 1.000
Target Version: Target 2.40
Integrator: HP RTE
Compound Sublist: all.sub
Sample Matrix: WATER

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
* 1 Bromochloromethane	128.00	13.148	(1.000)	93714	50	
2 Chloromethane	50.00	Compound Not Detected.				
3 Bromomethane	94.00	Compound Not Detected.				
4 Vinyl Chloride	62.00	Compound Not Detected.				
5 Chloroethane	64.00	Compound Not Detected.				
6 Methylene Chloride	84.00	Compound Not Detected.				
7 Acetone	43.00	Compound Not Detected.				
8 Carbon Disulfide	76.00	Compound Not Detected.				
9 1,1-Dichloroethene	96.00	Compound Not Detected.				
10 1,1-Dichloroethane	63.00	Compound Not Detected.				
11 trans-1,2-Dichloroethene	96.00	Compound Not Detected.				
12 cis-1,2-Dichloroethene	61.00	Compound Not Detected.				
13 Chloroform	83.00	Compound Not Detected.				
$ 14 1,2-Dichloroethane-d4	65.00	14.988	(1.140)	147286	49	2400
15 1,2-Dichloroethane	62.00	Compound Not Detected.				
16 2-Butanone	72.00	Compound Not Detected.				
17 1,1,1-Trichloroethane	97.00	Compound Not Detected.				
18 Carbon Tetrachloride	117.00	Compound Not Detected.				
19 Vinyl Acetate	43.00	Compound Not Detected.				
20 Bromodichloromethane	83.00	Compound Not Detected.				
46 Tetrahydrofuran	42.00	Compound Not Detected.				
* 21 1,4-Difluorobenzene	114.00	16.530	(1.000)	437912	50	
22 1,2-Dichloropropane	63.00	Compound Not Detected.				
23 cis-1,3-Dichloropropene	75.00	Compound Not Detected.				
24 Trichloroethene	130.00	Compound Not Detected.				
25 Dibromochloromethane	129.00	Compound Not Detected.				
26 1,1,2-Trichloroethane	97.00	Compound Not Detected.				
27 Benzene	78.00	Compound Not Detected.				
28 trans-1,3-Dichloropropene	75.00	Compound Not Detected.				

Data File: /chem/HPRTE2.i/october13.b/DVB313.d
Report Date: 01-Dec-1993 15:50

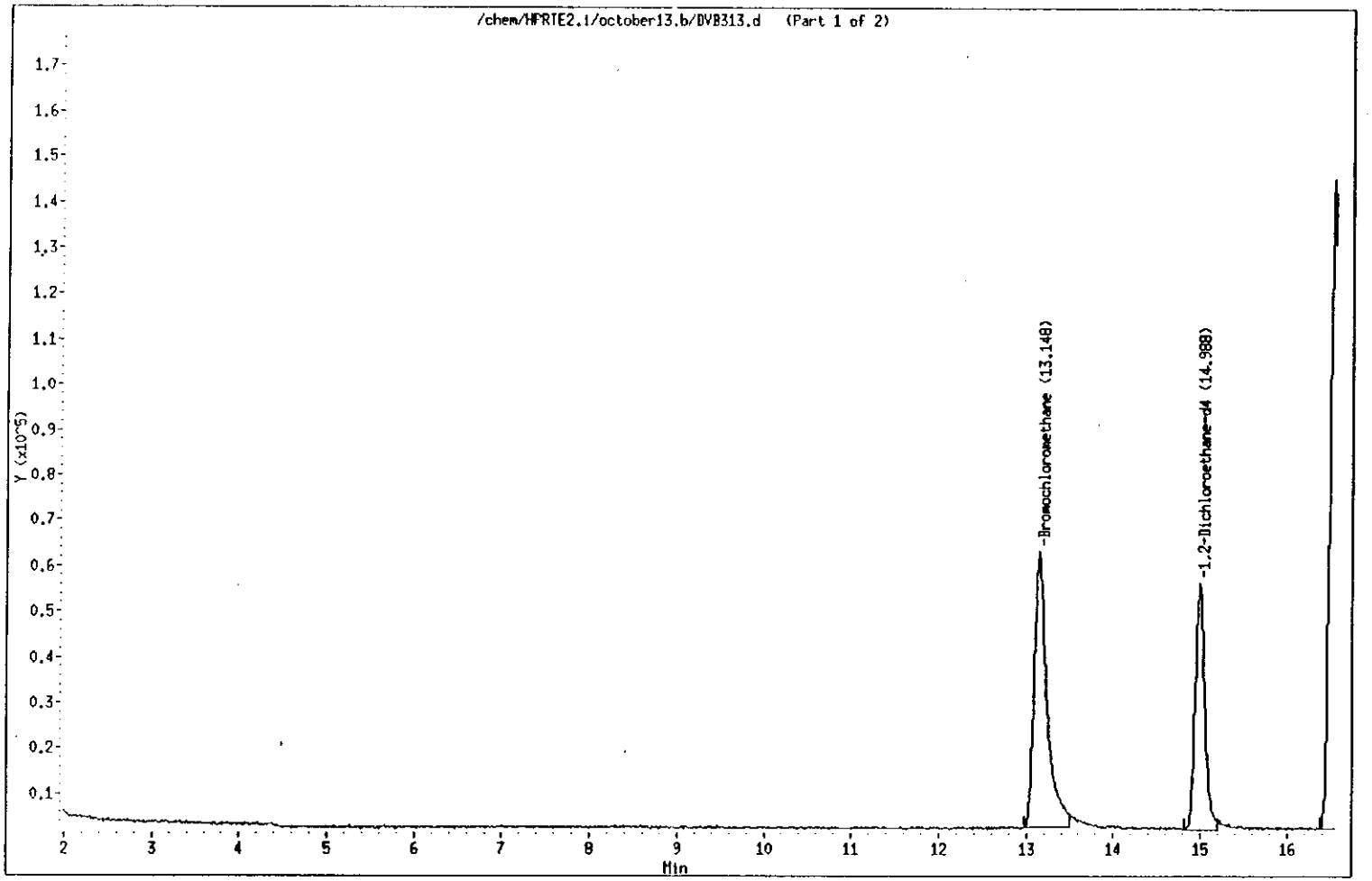
	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
	29 Bromoform	173.00	Compound Not Detected.				
*	30 Chlorobenzene-d5	117.00	24.158	(1.000)	363621	50	
	31 4-Methyl-2-Pentanone	43.00	Compound Not Detected.				
	32 2-Hexanone	43.00	Compound Not Detected.				
	33 Tetrachloroethene	164.00	Compound Not Detected.				
	34 1,1,2,2-Tetrachloroethane	83.00	Compound Not Detected.				
	35 Toluene	92.00	20.608	(0.853)	12193	2	120(a)
$	36 Toluene-d8	98.00	20.428	(0.846)	390898	50	2500
	37 Chlorobenzene	112.00	Compound Not Detected.				
	38 Ethylbenzene	106.00	Compound Not Detected.				
	39 Styrene	104.00	Compound Not Detected.				
	40 m&p-Xylene	106.00	Compound Not Detected.				
	41 o-Xylene	106.00	Compound Not Detected.				
$	42 Bromofluorobenzene	95.00	27.331	(1.131)	255906	50	2500
	43 Isopropylbenzene	105.00	Compound Not Detected.				
	44 1,3,5-Trimethylbenzene	105.00	Compound Not Detected.				
	45 1,2,4-Trimethylbenzene	105.00	Compound Not Detected.				
	47 1,2,3-Trimethylbenzene	105.00	Compound Not Detected.				

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: /chem/HPRTE2.i/october13.b/DVB313.d
Date : 13-OCT-93 15:03
Instrument : HPRTE2.i
Sample ID : R3631D
Column phase : DB-624
Volume Injected (uL) : 0.0

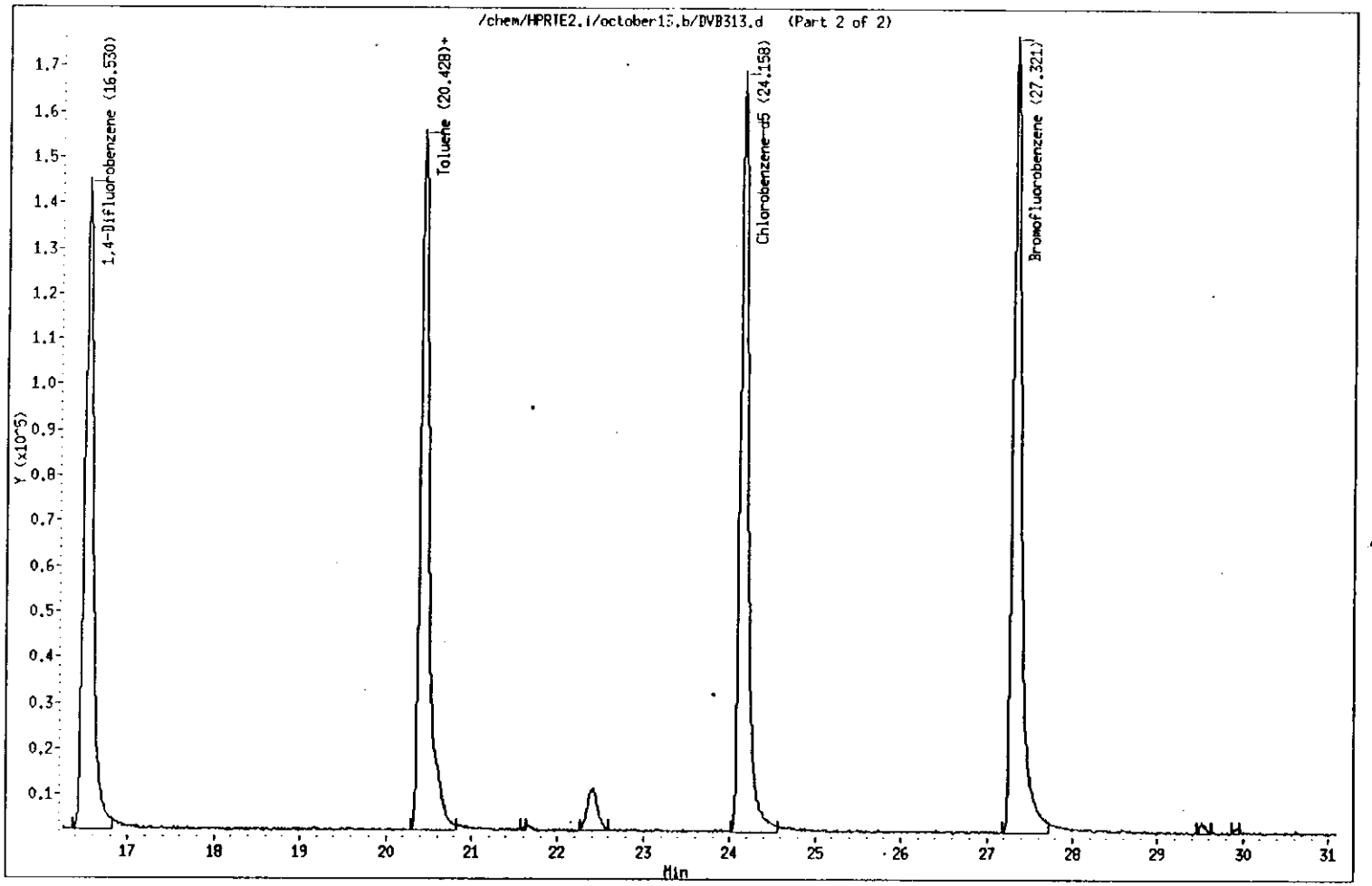
Column diameter : 0.54



αA- 316

Data File: /chem/HPRTE2.1/october13.b/DVB313.d
Date : 13-OCT-93 15:03
Instrument : HPRTE2.1
Sample ID : R3631D
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



QA-317

Data File: /chem/HPRTE2.i/october13.b/DVB313.d

Page 5

Date : 13-OCT-93 15:03

Instrument : HPRTE2.i

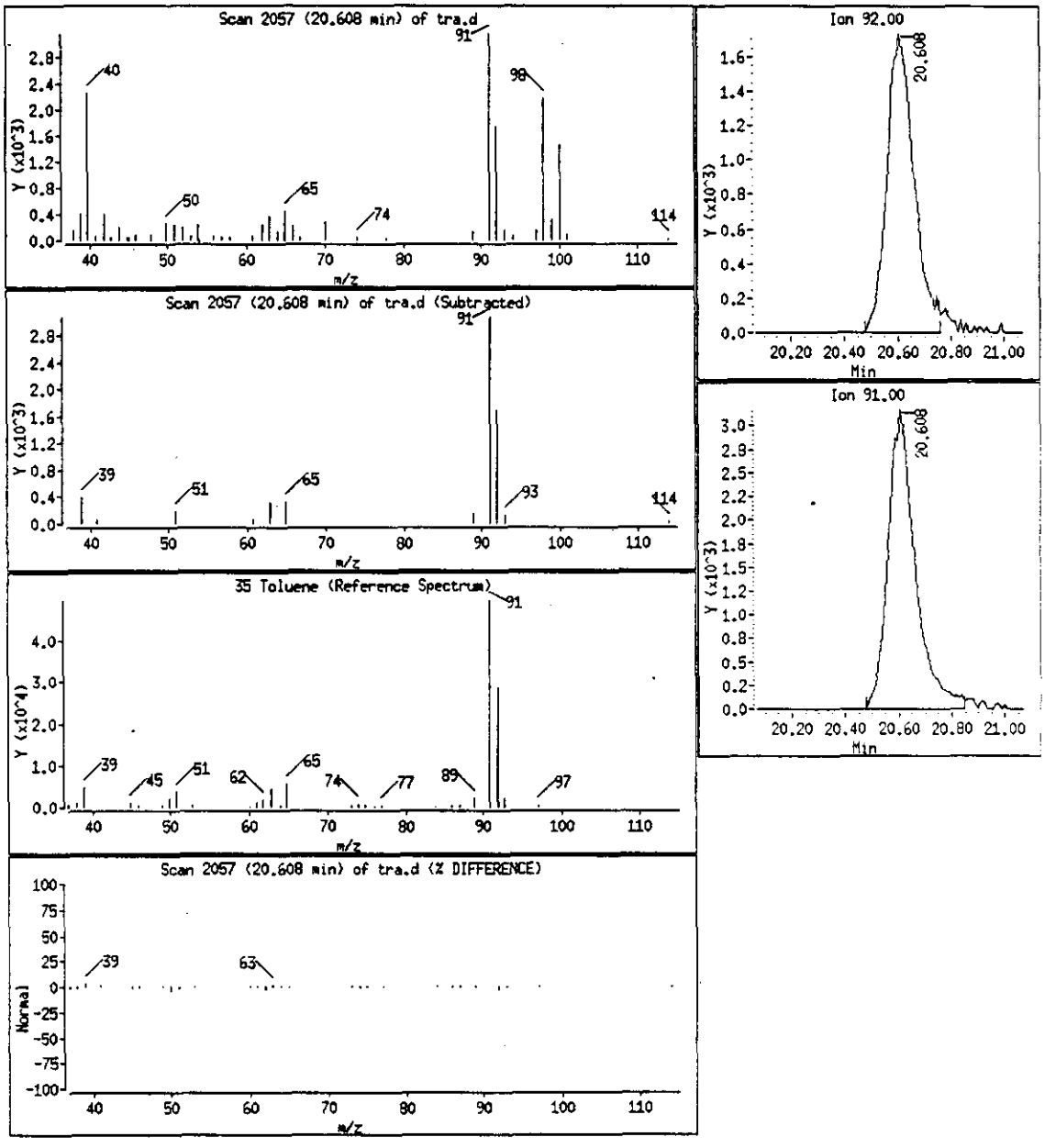
Sample ID : R3631D

Column phase : DB-624

Column diameter : 0.54

Volume Injected (uL) : 0.0

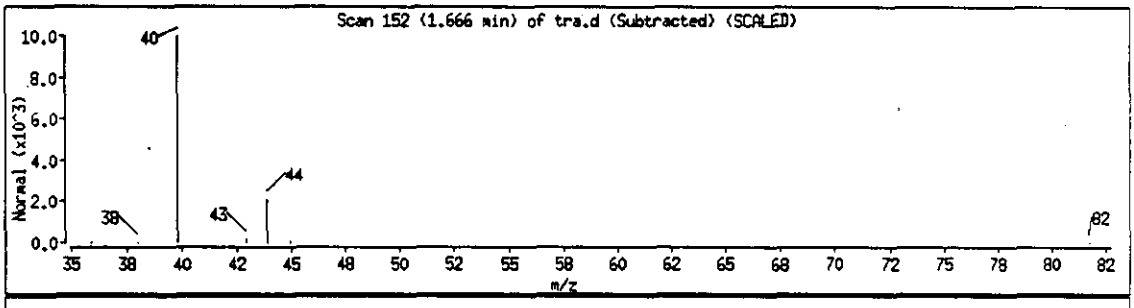
35 Toluene



2A-318

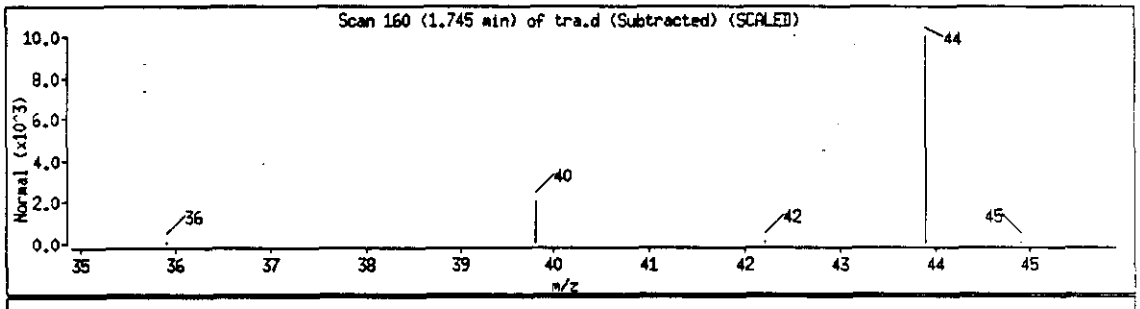
Data File: /chem/HPRTE2.i/october13.b/DVB313.d
Date : 13-OCT-93 15:03
Instrument : HPRTE2.i
Sample ID : R3631D
Column phase : DB-624 Column diameter : 0.54
Volume Injected (uL) : 0.0

Library Search Compound Match	CAS Number	Library	Lib Entry	Quality
UNKNOWN				



Data File: /chem/HPRTE2.i/october13.b/DVB313.d
Date : 13-OCT-93 15:03
Instrument : HPRTE2.i
Sample ID : R3631D
Column phase : DB-624 Column diameter : 0.54
Volume Injected (uL) : 0.0

Library Search Compound Match	CAS Number	Library	Lib Entry	Quality
UNKNOWN				



Data File: /chem/HPRTE2.i/october13.b/DVB314.d
Report Date: 01-Dec-1993 15:51

Battelle PNL

Data file : /chem/HPRTE2.i/october13.b/DVB314.d
Lab. Id. : 93-08655 Quant Type: ISTD
Inj Date : 13-OCT-93 15:39 Autotune Date: light Savings Time
Operator : Gerald A. Ross Inst ID: HPRTE2.i
Smp Info : 93-08655 (from RTE file >VB314)
Misc Info : R3628 107AP
Comment :
Method : /chem/HPRTE2.i/october13.b/voaevap.m
Meth Date : 01-Dec-1993 15:47 target
Cal Date : 13-OCT-1993 07:35 Cal File: DVB3B2.d
Als bottle: 0
Dil Factor: 1.000 Target Version: Target 2.40
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: WATER

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
* 1 Bromochloromethane	128.00	13.136	(1.000)	92123	50	
2 Chloromethane	50.00	Compound Not Detected.				
3 Bromomethane	94.00	Compound Not Detected.				
4 Vinyl Chloride	62.00	Compound Not Detected.				
5 Chloroethane	64.00	Compound Not Detected.				
6 Methylene Chloride	84.00	Compound Not Detected.				
7 Acetone	43.00	Compound Not Detected.				
8 Carbon Disulfide	76.00	Compound Not Detected.				
9 1,1-Dichloroethene	96.00	Compound Not Detected.				
10 1,1-Dichloroethane	63.00	Compound Not Detected.				
11 trans-1,2-Dichloroethene	96.00	Compound Not Detected.				
12 cis-1,2-Dichloroethene	61.00	Compound Not Detected.				
13 Chloroform	83.00	Compound Not Detected.				
$ 14 1,2-Dichloroethane-d4	65.00	14.977	(1.140)	140304	47	2400
15 1,2-Dichloroethane	62.00	Compound Not Detected.				
16 2-Butanone	72.00	Compound Not Detected.				
17 1,1,1-Trichloroethane	97.00	Compound Not Detected.				
18 Carbon Tetrachloride	117.00	Compound Not Detected.				
19 Vinyl Acetate	43.00	Compound Not Detected.				
20 Bromodichloromethane	83.00	Compound Not Detected.				
46 Tetrahydrofuran	42.00	Compound Not Detected.				
* 21 1,4-Difluorobenzene	114.00	16.509	(1.000)	420191	50	
22 1,2-Dichloropropane	63.00	Compound Not Detected.				
23 cis-1,3-Dichloropropene	75.00	Compound Not Detected.				
24 Trichloroethene	130.00	Compound Not Detected.				
25 Dibromochloromethane	129.00	Compound Not Detected.				
26 1,1,2-Trichloroethane	97.00	Compound Not Detected.				
27 Benzene	78.00	Compound Not Detected.				
28 trans-1,3-Dichloropropene	75.00	Compound Not Detected.				

Data File: /chem/HPRTE2.i/october13.b/DVB314.d
Report Date: 01-Dec-1993 15:51

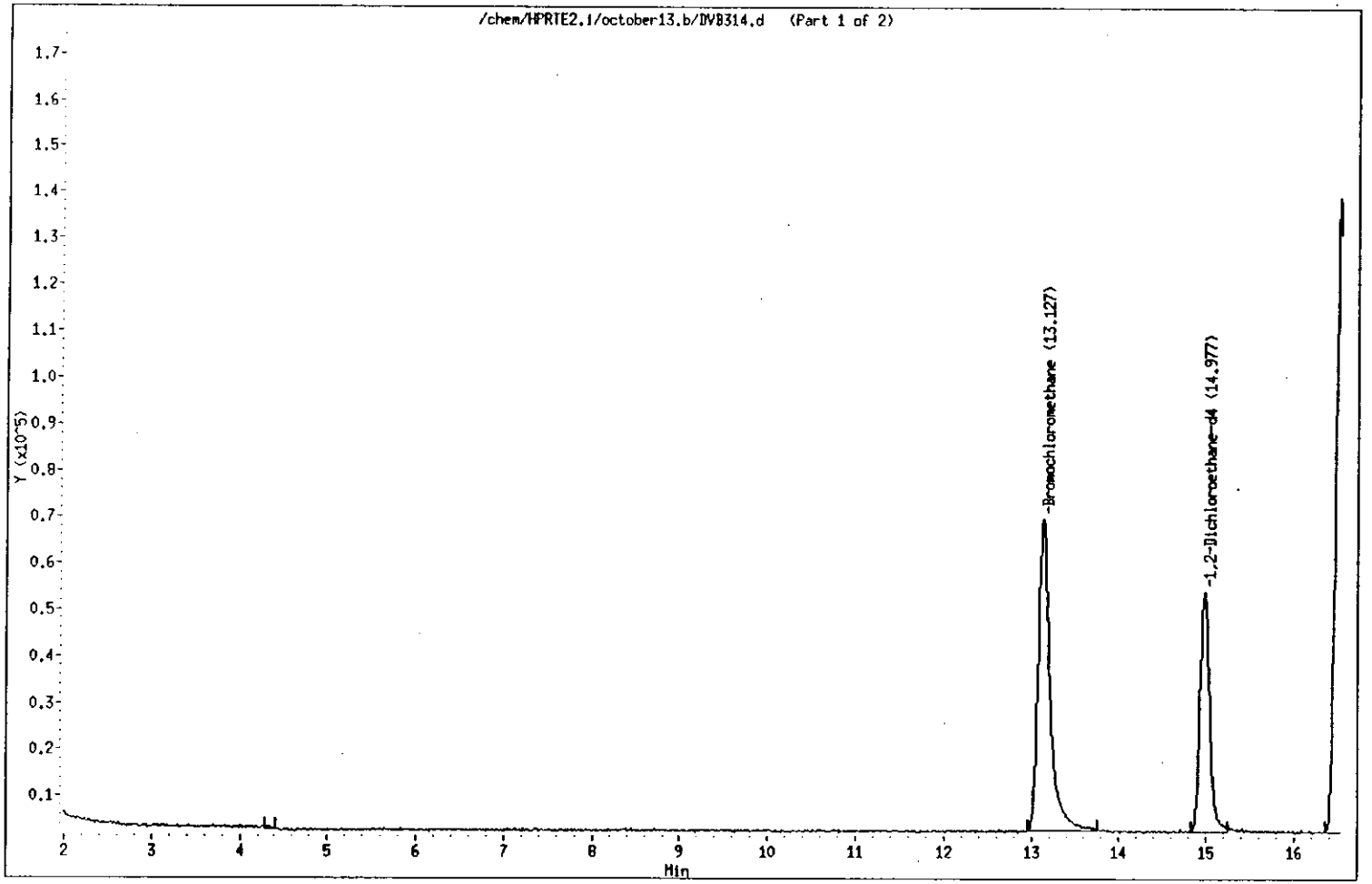
	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
	29 Bromoform	173.00	Compound Not Detected.				
*	30 Chlorobenzene-d5	117.00	24.128	(1.000)	357495	50	
	31 4-Methyl-2-Pentanone	43.00	Compound Not Detected.				
	32 2-Hexanone	43.00	Compound Not Detected.				
	33 Tetrachloroethene	164.00	Compound Not Detected.				
	34 1,1,2,2-Tetrachloroethane	83.00	Compound Not Detected.				
	35 Toluene	92.00	20.578	(0.853)	12897	3	130(a)
$	36 Toluene-d8	98.00	20.408	(0.846)	384810	50	2500
	37 Chlorobenzene	112.00	Compound Not Detected.				
	38 Ethylbenzene	106.00	Compound Not Detected.				
	39 Styrene	104.00	Compound Not Detected.				
	40 m&p-Xylene	106.00	Compound Not Detected.				
	41 o-Xylene	106.00	Compound Not Detected.				
$	42 Bromofluorobenzene	95.00	27.300	(1.131)	249318	49	2500
	43 Isopropylbenzene	105.00	Compound Not Detected.				
	44 1,3,5-Trimethylbenzene	105.00	Compound Not Detected.				
	45 1,2,4-Trimethylbenzene	105.00	Compound Not Detected.				
	47 1,2,3-Trimethylbenzene	105.00	Compound Not Detected.				

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: /chem/HPRTE2.i/october13.b/DVB314.d
Date : 13-OCT-93 15:39
Instrument : HPRTE2.i
Sample ID : R3628
Column phase : DB-624
Volume Injected (uL) : 0.0

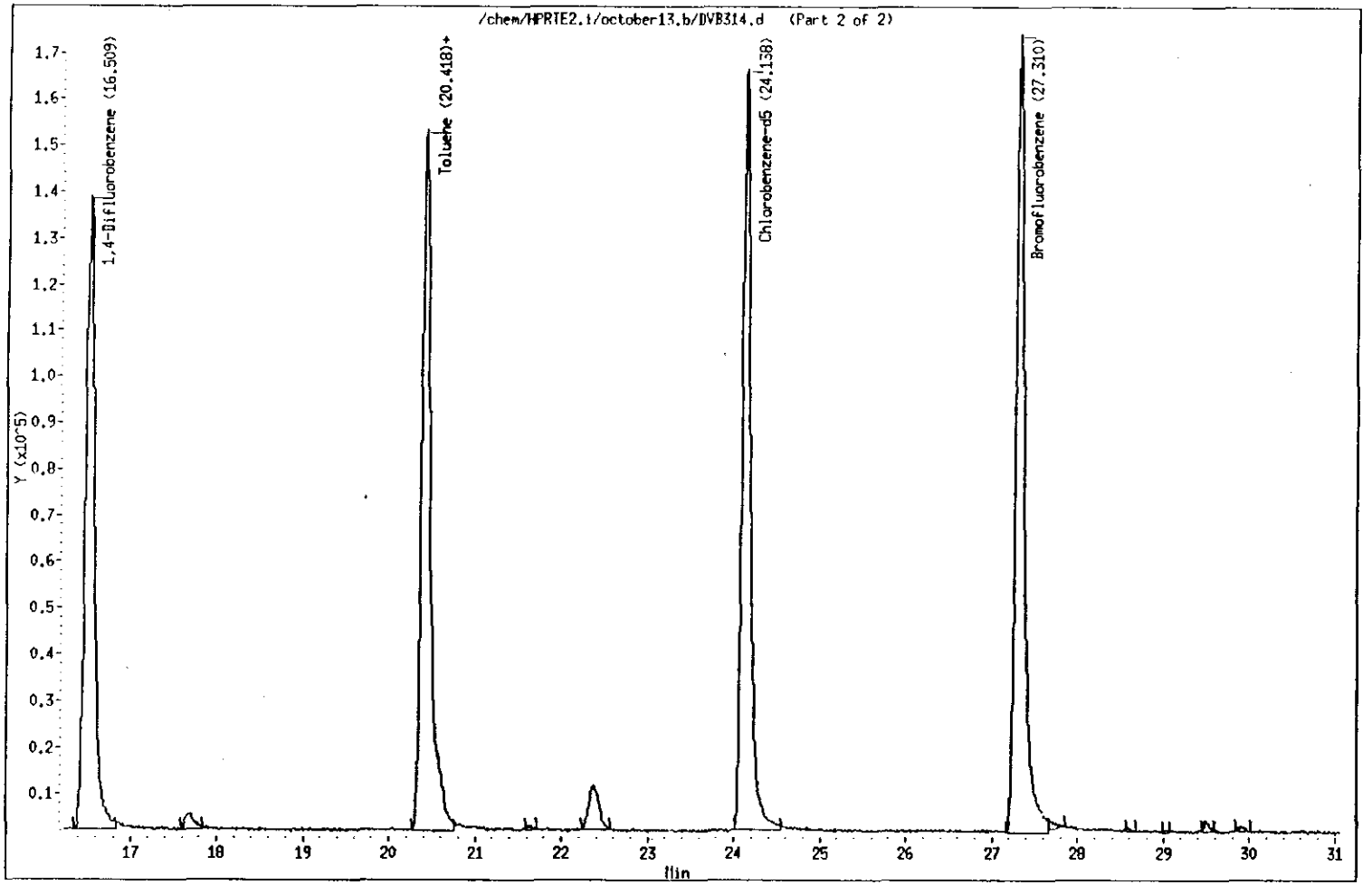
Column diameter : 0.54



2A - 323

Data File: /chem/HPRTE2.i/october13.b/DVB314.d
Date : 13-OCT-93 15:39
Instrument : HPRTE2.i
Sample ID : R3628
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



2A-324

Data File: /chem/HPRTE2.i/october13.b/DVB314.d

Page 5

Date : 13-OCT-93 15:39

Instrument : HPRTE2.i

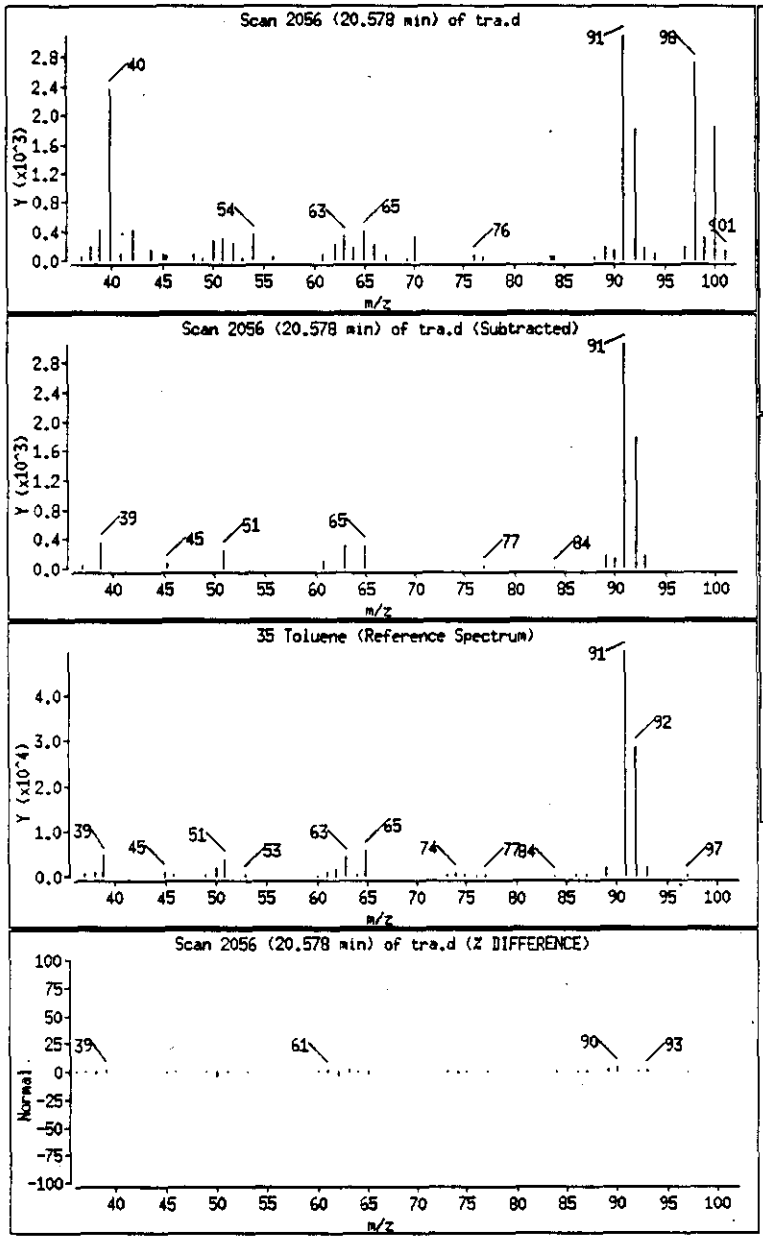
Sample ID : R3628

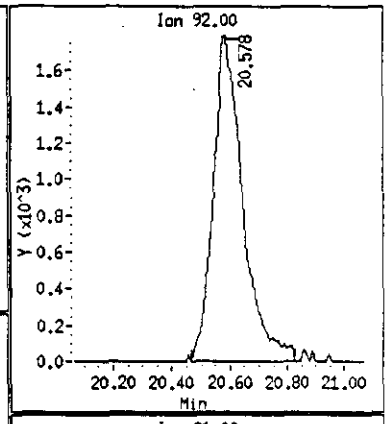
Column phase : DB-624

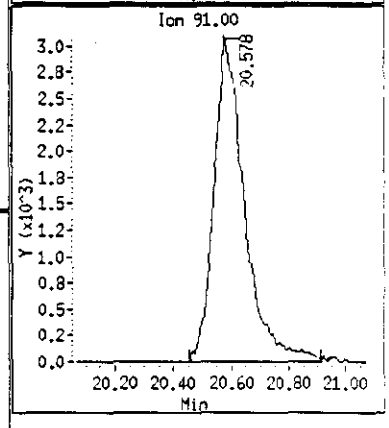
Column diameter : 0.54

Volume Injected (uL) : 0.0

35 Toluene





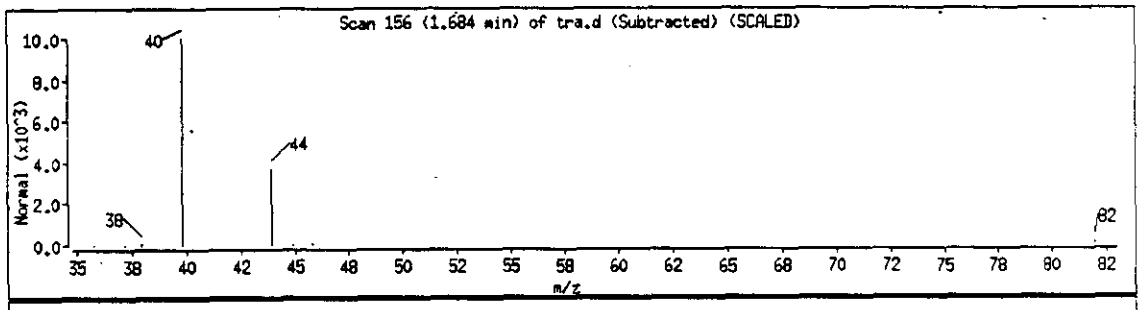


2A-325

Data File: /chem/HPRTE2.i/october13.b/DVB314.d
Date : 13-OCT-93 15:39
Instrument : HPRTE2.i
Sample ID : R3628
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54

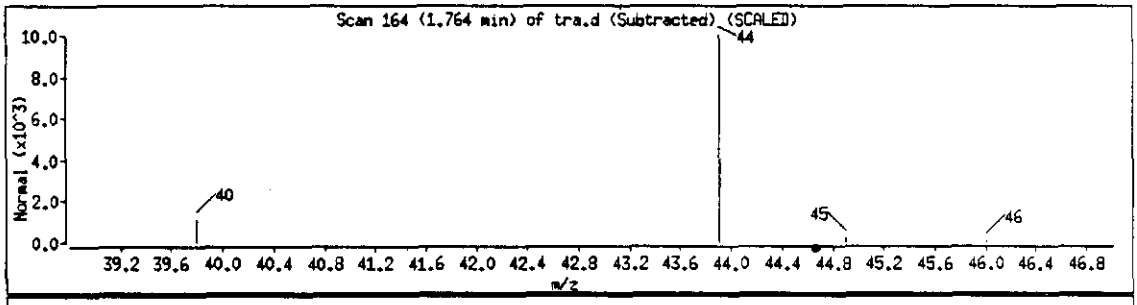
Library Search Compound Match	CAS Number	Library	Lib Entry	Quality
UNKNOWN				



Data File: /chem/HPRTE2.i/october13.b/DVB314.d

Date : 13-OCT-93 15:39
Instrument : HPRTE2.i
Sample ID : R3628
Column phase : DB-624 Column diameter : 0.54
Volume Injected (uL) : 0.0

Library Search Compound Match	CAS Number	Library	Lib Entry	Quality
UNKNOWN				



Data File: /chem/HPRTE2.i/october13.b/DVB315.d
Report Date: 01-Dec-1993 15:51

Battelle PNL

Data file : /chem/HPRTE2.i/october13.b/DVB315.d
Lab. Id. : 93-08655D — Quant Type: ISTD
Inj Date : 13-OCT-93 16:16 — Autotune Date: light Savings Time
Operator : Gerald A. Ross — Inst ID: HPRTE2.i
Smp Info : 93-08655D (from RTE file >VB315)
Misc Info : R3628D 107AP
Comment :
Method : /chem/HPRTE2.i/october13.b/voaevap.m
Meth Date : 01-Dec-1993 15:47 target
Cal Date : 13-OCT-1993 07:35 — Cal File: DVB3B2.d
Als bottle: 0
Dil Factor: 1.000 — Target Version: Target 2.40
Integrator: HP RTE — Compound Sublist: all.sub
Sample Matrix: WATER

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
*	1 Bromochloromethane	128.00	13.147	(1.000)	86374	50	
	2 Chloromethane	50.00	Compound Not Detected.				
	3 Bromomethane	94.00	Compound Not Detected.				
	4 Vinyl Chloride	62.00	Compound Not Detected.				
	5 Chloroethane	64.00	Compound Not Detected.				
	6 Methylene Chloride	84.00	Compound Not Detected.				
	7 Acetone	43.00	Compound Not Detected.				
	8 Carbon Disulfide	76.00	Compound Not Detected.				
	9 1,1-Dichloroethene	96.00	Compound Not Detected.				
	10 1,1-Dichloroethane	63.00	Compound Not Detected.				
	11 trans-1,2-Dichloroethene	96.00	Compound Not Detected.				
	12 cis-1,2-Dichloroethene	61.00	Compound Not Detected.				
	13 Chloroform	83.00	Compound Not Detected.				
$	14 1,2-Dichloroethane-d4	65.00	14.978	(1.139)	131946	48	2400
	15 1,2-Dichloroethane	62.00	Compound Not Detected.				
	16 2-Butanone	72.00	Compound Not Detected.				
	17 1,1,1-Trichloroethane	97.00	Compound Not Detected.				
	18 Carbon Tetrachloride	117.00	Compound Not Detected.				
	19 Vinyl Acetate	43.00	Compound Not Detected.				
	20 Bromodichloromethane	83.00	Compound Not Detected.				
	46 Tetrahydrofuran	42.00	Compound Not Detected.				
*	21 1,4-Difluorobenzene	114.00	16.520	(1.000)	380832	50	
	22 1,2-Dichloropropane	63.00	Compound Not Detected.				
	23 cis-1,3-Dichloropropene	75.00	Compound Not Detected.				
	24 Trichloroethene	130.00	Compound Not Detected.				
	25 Dibromochloromethane	129.00	Compound Not Detected.				
	26 1,1,2-Trichloroethane	97.00	Compound Not Detected.				
	27 Benzene	78.00	Compound Not Detected.				
	28 trans-1,3-Dichloropropene	75.00	Compound Not Detected.				

Data File: /chem/HPRTE2.i/october13.b/DVB315.d
Report Date: 01-Dec-1993 15:51

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
	29 Bromoform	173.00	Compound Not Detected.				
*	30 Chlorobenzene-d5	117.00	24.128	(1.000)	336819	50	
	31 4-Methyl-2-Pentanone	43.00	Compound Not Detected.				
	32 2-Hexanone	43.00	Compound Not Detected.				
	33 Tetrachloroethene	164.00	Compound Not Detected.				
	34 1,1,2,2-Tetrachloroethane	83.00	Compound Not Detected.				
	35 Toluene	92.00	20.578	(0.853)	12905	3	140(a)
$	36 Toluene-d8	98.00	20.418	(0.846)	373150	52	2600
	37 Chlorobenzene	112.00	Compound Not Detected.				
	38 Ethylbenzene	106.00	Compound Not Detected.				
	39 Styrene	104.00	Compound Not Detected.				
	40 m&p-Xylene	106.00	Compound Not Detected.				
	41 o-Xylene	106.00	Compound Not Detected.				
$	42 Bromofluorobenzene	95.00	27.310	(1.132)	240881	51	2500
	43 Isopropylbenzene	105.00	Compound Not Detected.				
	44 1,3,5-Trimethylbenzene	105.00	Compound Not Detected.				
	45 1,2,4-Trimethylbenzene	105.00	Compound Not Detected.				
	47 1,2,3-Trimethylbenzene	105.00	Compound Not Detected.				

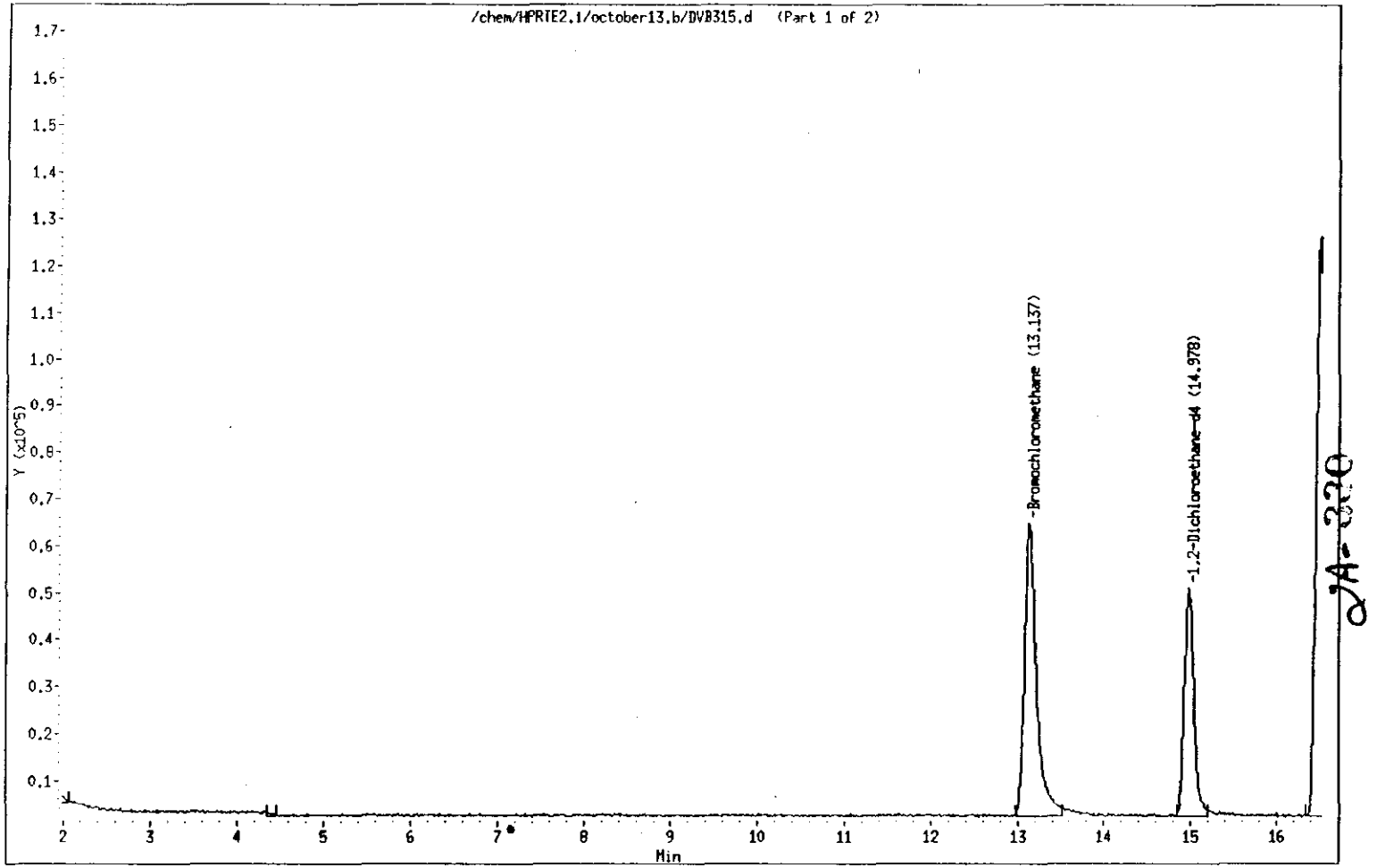
QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

2A-329

Data File: /chem/HPRTE2.1/october13.b/DVB315.d
Date : 13-OCT-93 16:16
Instrument : HPRTE2.1
Sample ID : R3628D
Column phase : DB-624
Volume Injected (uL) : 0.0

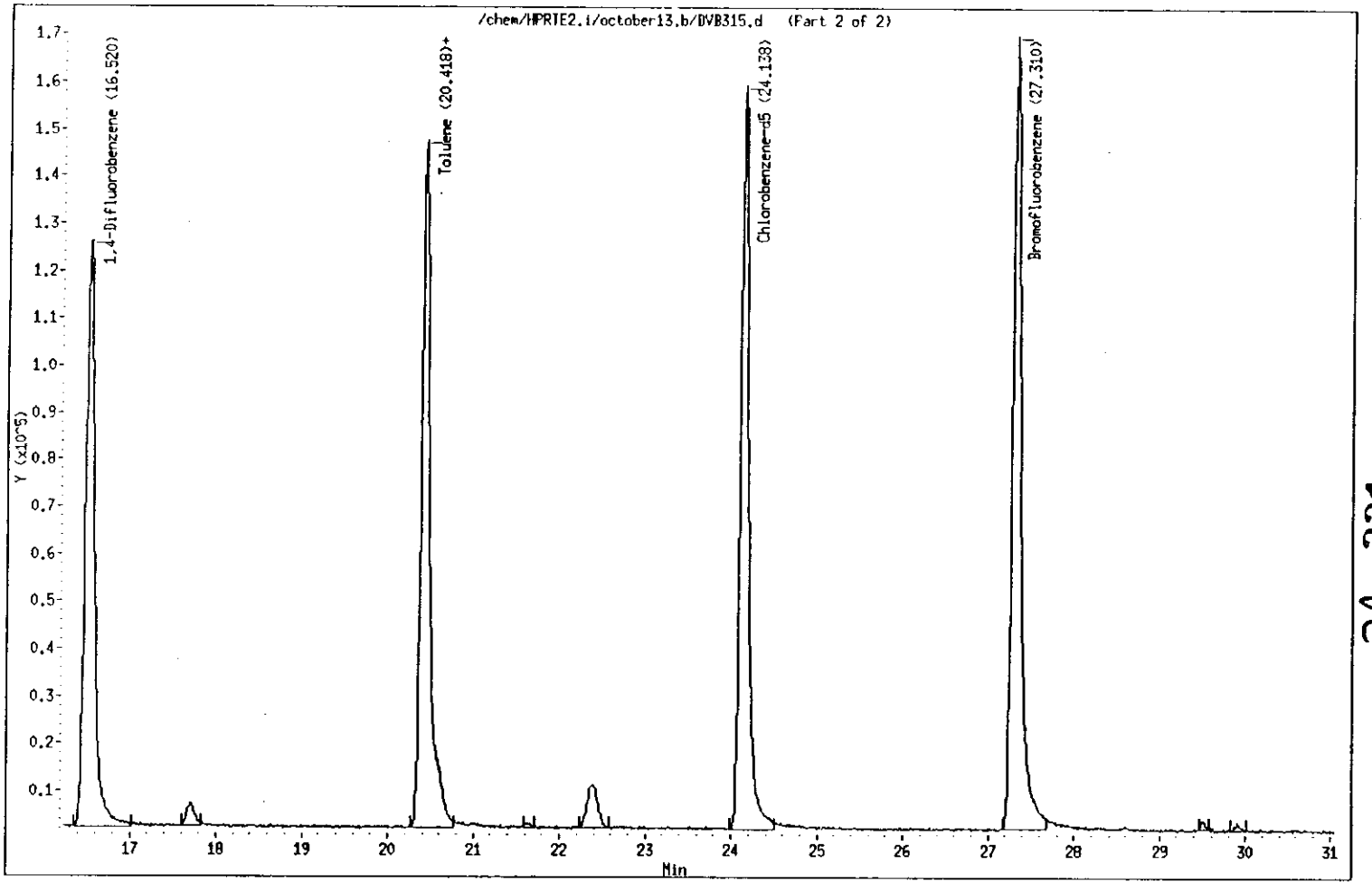
Column diameter : 0.54



JA-320

Data File: /chem/HPRTE2.i/october13.b/DVB315.d
Date : 13-OCT-93 16:16
Instrument : HPRTE2.i
Sample ID : R3628D
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



QA-331

Data File: /chem/HPRTE2.i/october13.b/DV8315.d

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Date : 13-OCT-93 16:16

Instrument : HPRTE2.i

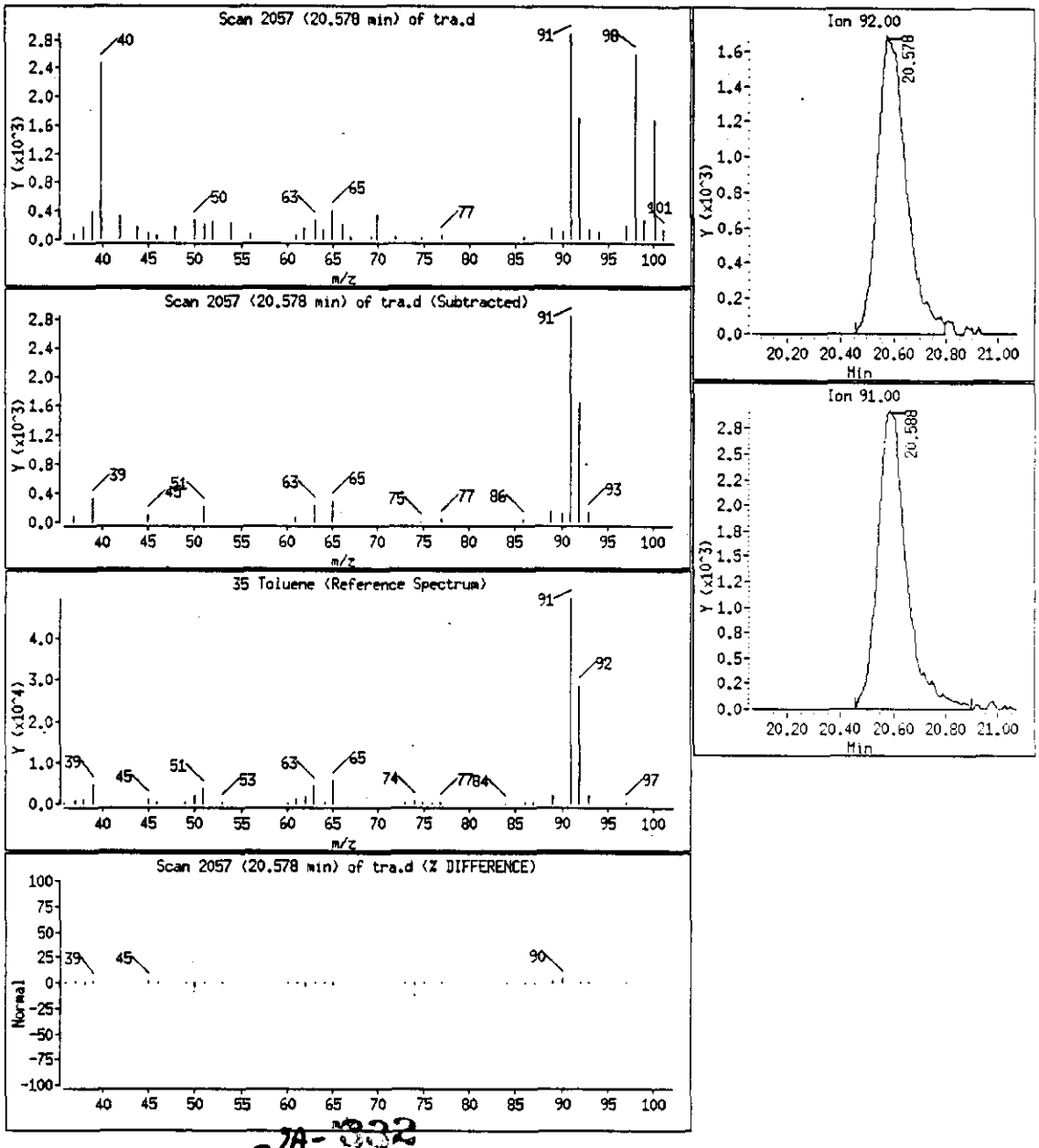
Sample ID : R3628D

Column phase : DB-624

Column diameter : 0.54

Volume Injected (uL) : 0.0

35 Toluene



2A-2032

Data File: /chem/HPRTE2.1/october13.b/DVB315.d
Date : 13-OCT-93 16:16
Instrument : HPRTE2.1
Sample ID : R3628D
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54

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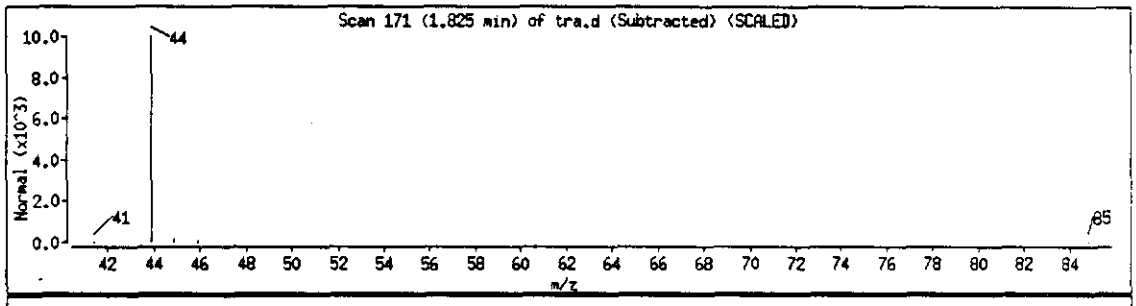
Library Search Compound Match	CAS Number	Library	Lib Entry	Quality
UNKNOWN				



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Data File: /chem/HPRTE2.i/october13.b/DVB316.d
Report Date: 01-Dec-1993 15:51

Battelle PNL

Data file : /chem/HPRTE2.i/october13.b/DVB316.d
Lab. Id. : 93-08655MS
Inj Date : 13-OCT-93 16:52
Operator : Gerald A. Ross
Smp Info : 93-08655MS (from RTE file >VB316)
Misc Info : R3628MS 107AP
Comment :
Method : /chem/HPRTE2.i/october13.b/voaevap.m
Meth Date : 01-Dec-1993 15:47 target
Cal Date : 13-OCT-1993 07:35
Als bottle: 0
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: WATER

Quant Type: ISTD
Autotune Date: light Savings Time
Inst ID: HPRTE2.i
Cal File: DVB3B2.d
QC Sample: MS
Target Version: Target 2.40
Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
* 1 Bromochloromethane	128.00	13.096	(1.000)	89194	50	
2 Chloromethane	50.00	Compound Not Detected.				
3 Bromomethane	94.00	Compound Not Detected.				
4 Vinyl Chloride	62.00	Compound Not Detected.				
5 Chloroethane	64.00	Compound Not Detected.				
6 Methylene Chloride	84.00	Compound Not Detected.				
7 Acetone	43.00	Compound Not Detected.				
8 Carbon Disulfide	76.00	Compound Not Detected.				
9 1,1-Dichloroethene	96.00	6.694	(0.511)	135148	64	3200
10 1,1-Dichloroethane	63.00	Compound Not Detected.				
11 trans-1,2-Dichloroethene	96.00	Compound Not Detected.				
12 cis-1,2-Dichloroethene	61.00	Compound Not Detected.				
13 Chloroform	83.00	Compound Not Detected.				
$ 14 1,2-Dichloroethane-d4	65.00	14.976	(1.144)	141255	49	2500
15 1,2-Dichloroethane	62.00	Compound Not Detected.				
16 2-Butanone	72.00	Compound Not Detected.				
17 1,1,1-Trichloroethane	97.00	Compound Not Detected.				
18 Carbon Tetrachloride	117.00	Compound Not Detected.				
19 Vinyl Acetate	43.00	Compound Not Detected.				
20 Bromodichloromethane	83.00	Compound Not Detected.				
46 Tetrahydrofuran	42.00	13.325	(1.018)	16339	44	2200
* 21 1,4-Difluorobenzene	114.00	16.509	(1.000)	422885	50	
22 1,2-Dichloropropane	63.00	Compound Not Detected.				
23 cis-1,3-Dichloropropene	75.00	Compound Not Detected.				
24 Trichloroethene	130.00	17.097	(1.036)	191896	49	2400
25 Dibromochloromethane	129.00	Compound Not Detected.				
26 1,1,2-Trichloroethane	97.00	Compound Not Detected.				
27 Benzene	78.00	15.066	(0.913)	374974	52	2600
28 trans-1,3-Dichloropropene	75.00	Compound Not Detected.				

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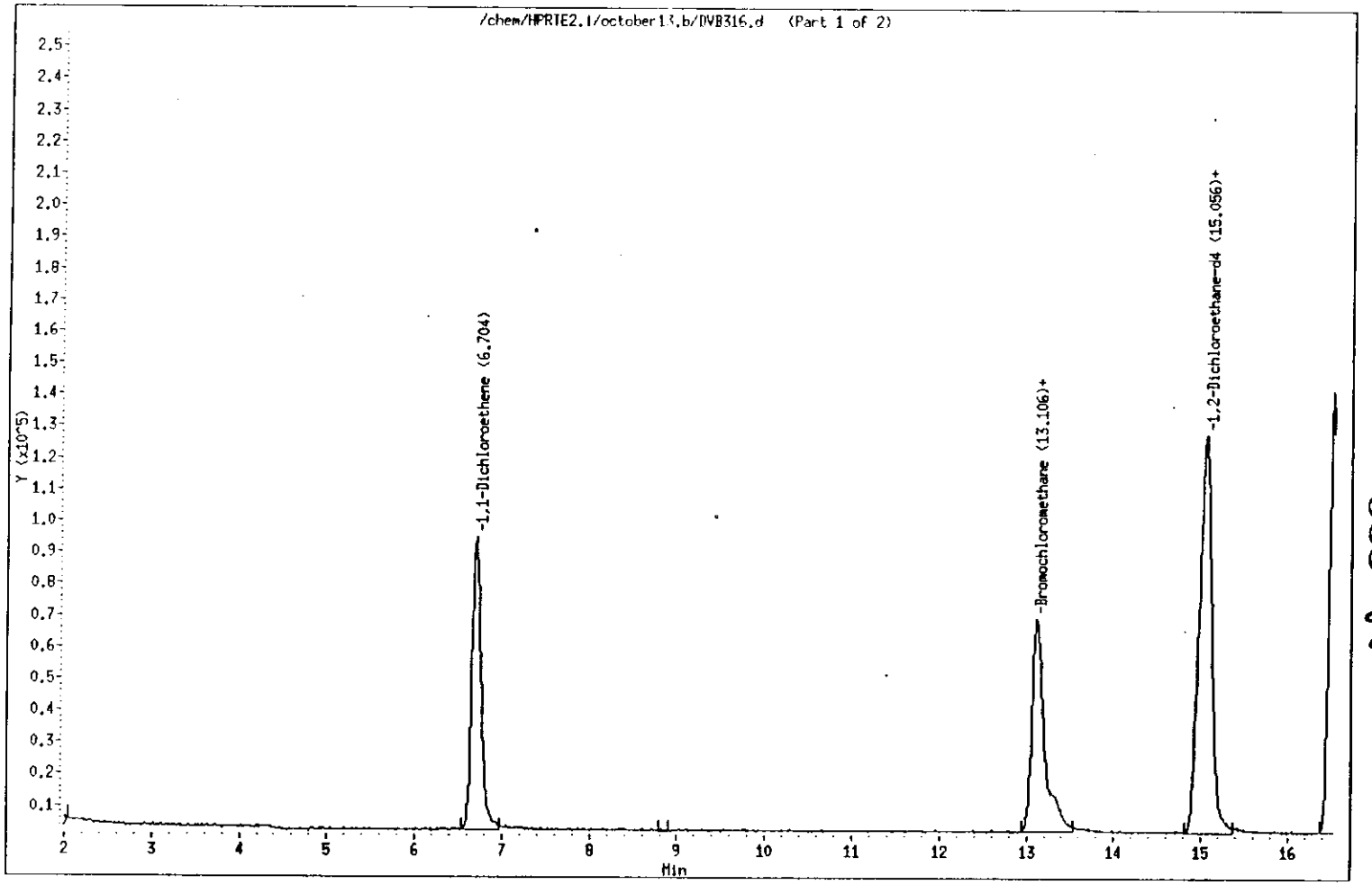
Data File: /chem/HPRTE2.i/october13.b/DVB316.d
Report Date: 01-Dec-1993 15:51

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
	29 Bromoform	173.00	Compound Not Detected.				
*	30 Chlorobenzene-d5	117.00	24.150	(1.000)	355657	50	
	31 4-Methyl-2-Pentanone	43.00	Compound Not Detected.				
	32 2-Hexanone	43.00	Compound Not Detected.				
	33 Tetrachloroethene	164.00	Compound Not Detected.				
	34 1,1,2,2-Tetrachloroethane	83.00	Compound Not Detected.				
	35 Toluene	92.00	20.599	(0.853)	258245	54	2700
$	36 Toluene-d8	98.00	20.429	(0.846)	387522	51	2600
	37 Chlorobenzene	112.00	24.220	(1.003)	338859	49	2400
	38 Ethylbenzene	106.00	Compound Not Detected.				
	39 Styrene	104.00	Compound Not Detected.				
	40 m&p-Xylene	106.00	Compound Not Detected.				
	41 o-Xylene	106.00	Compound Not Detected.				
$	42 Bromofluorobenzene	95.00	27.325	(1.131)	253996	50	2500
	43 Isopropylbenzene	105.00	27.005	(1.118)	560854	50	2500
	44 1,3,5-Trimethylbenzene	105.00	28.561	(1.183)	441918	50	2500
	45 1,2,4-Trimethylbenzene	105.00	29.119	(1.206)	411311	51	2500
	47 1,2,3-Trimethylbenzene	105.00	29.618	(1.226)	402756	48	2400

Data File: /chem/HPRTE2.i/october13.b/DVB316.d
Date : 13-OCT-93 16:52
Instrument : HPRTE2.i
Sample ID : R3628MS
Column phase : DB-624
Volume Injected (uL) : 0.0

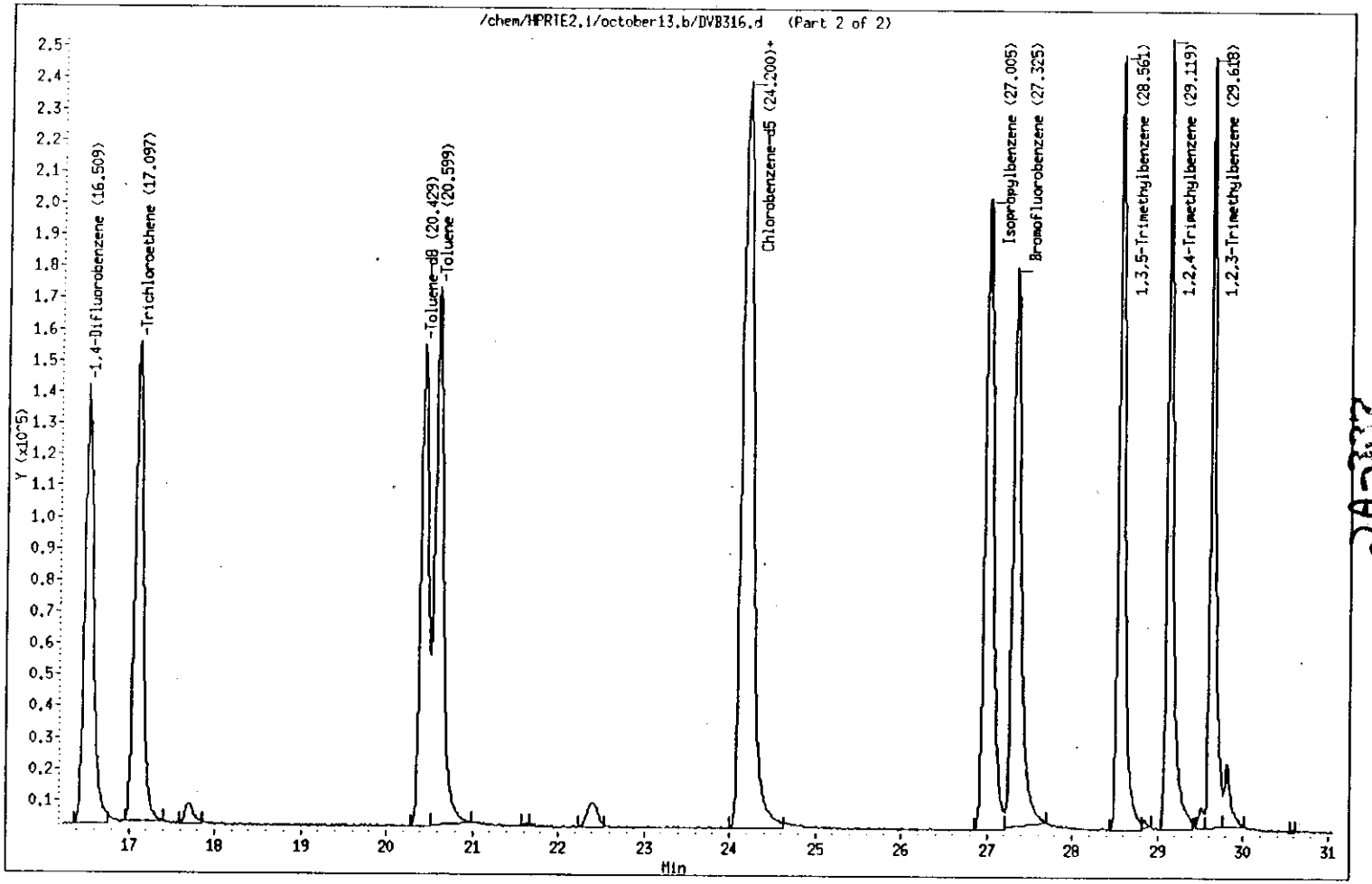
Column diameter : 0.54



2A-336

Data File: /chem/HPRTE2.1/october13.b/DVB316.d
Date : 13-OCT-93 16:52
Instrument : HPRTE2.1
Sample ID : R3628MS
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



Data File: /chem/HPRTE2.i/october13.b/DVB316.d

Page 5

Date : 13-OCT-93 16:52

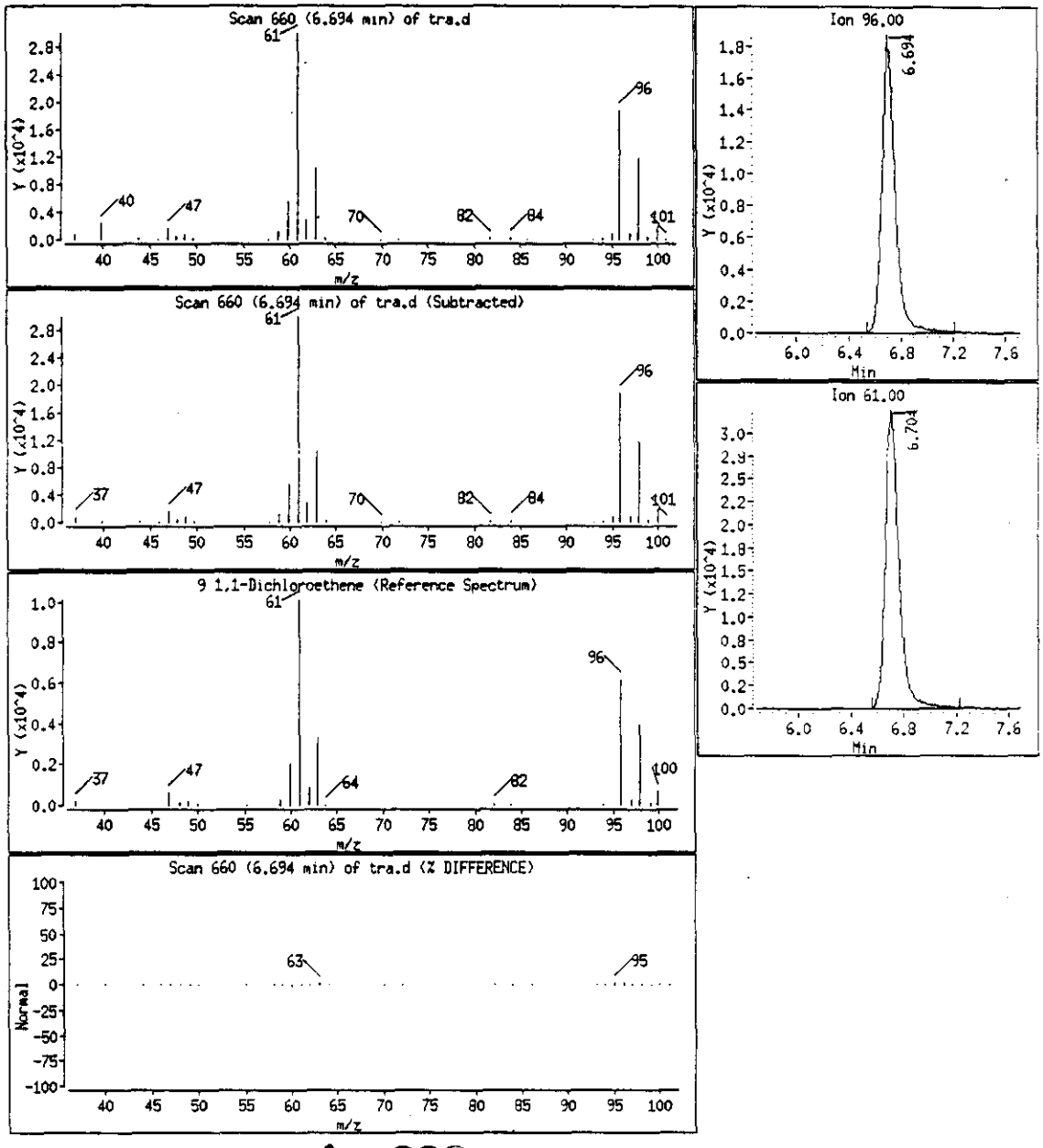
Instrument : HPRTE2.i

Sample ID : R3628MS

Column phase : DB-624 Column diameter : 0.54

Volume Injected (uL) : 0.0

9 1,1-Dichloroethene



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Data File: /chem/HPRTE2.i/october13.b/DVB316.d

Page 6

Date : 13-OCT-93 16:52

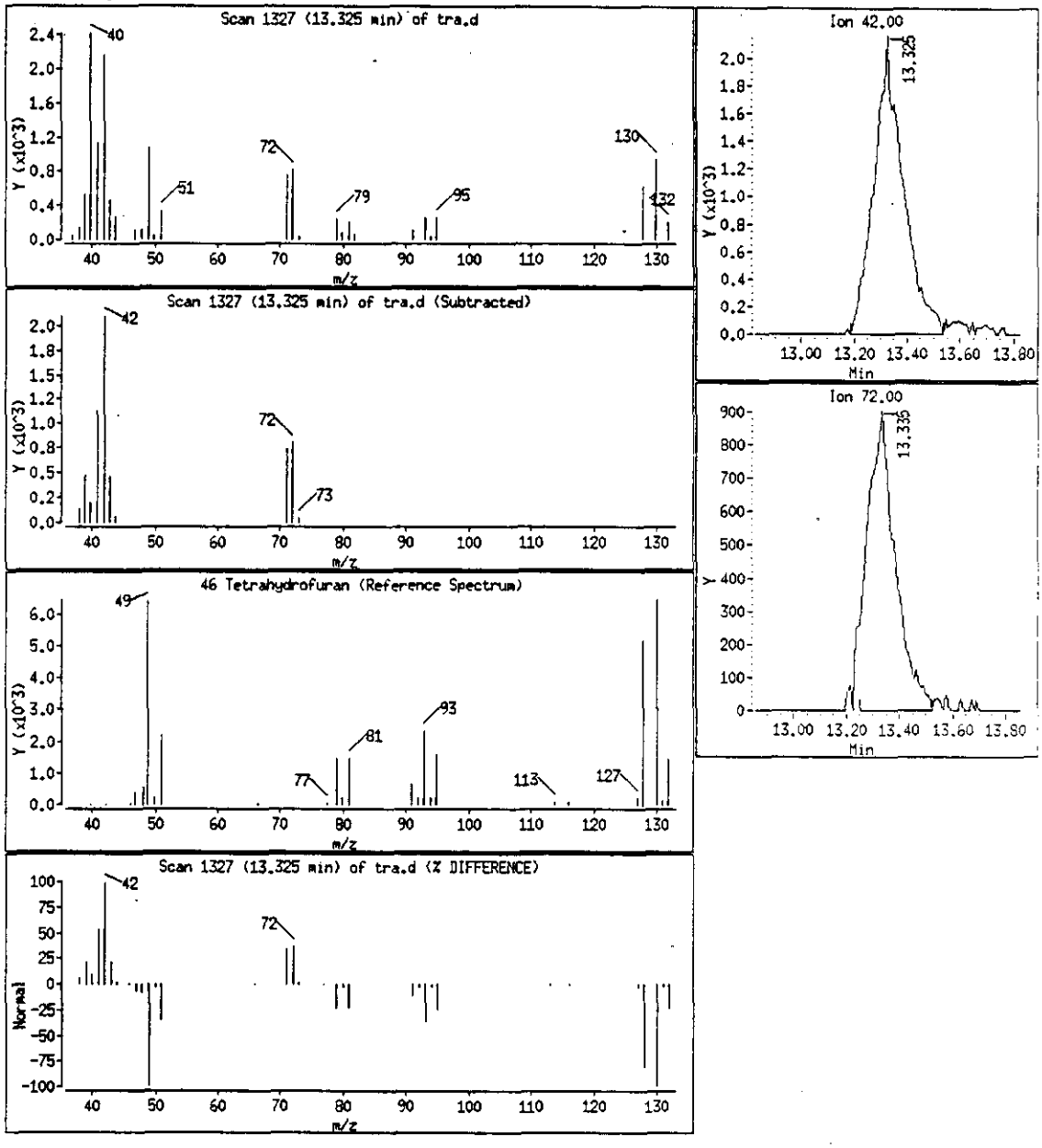
Instrument : HPRTE2.i

Sample ID : R3628MS

Column phase : DB-624 Column diameter : 0.54

Volume Injected (uL) : 0.0

46 Tetrahydrofuran



JA-339

Data File: /chem/HPRTE2.i/october13.b/DVB316.d

Date : 13-OCT-93 16:52

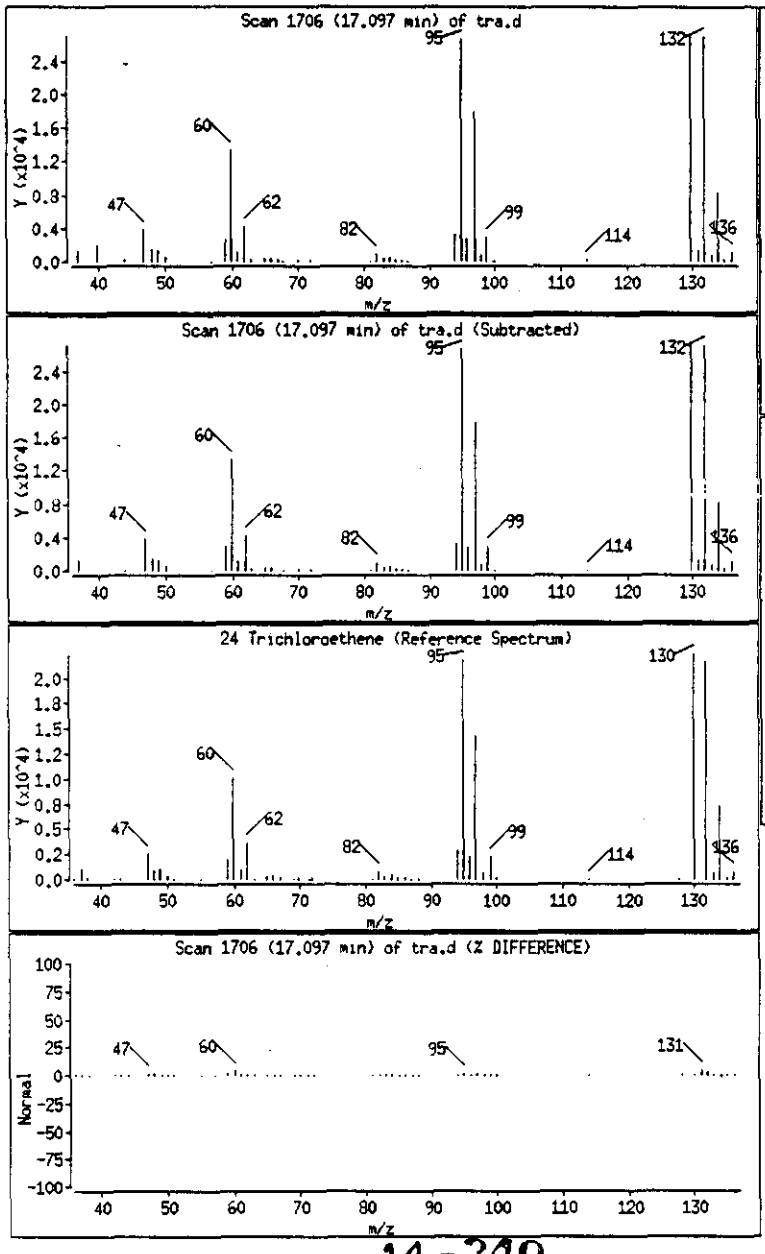
Instrument : HPRTE2.i

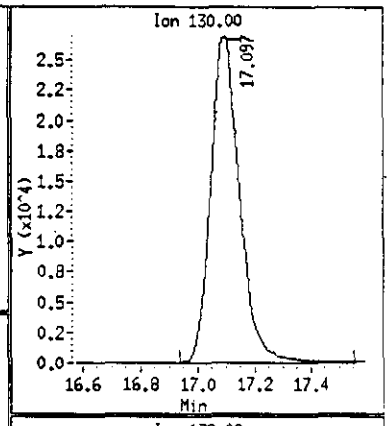
Sample ID : R3628MS

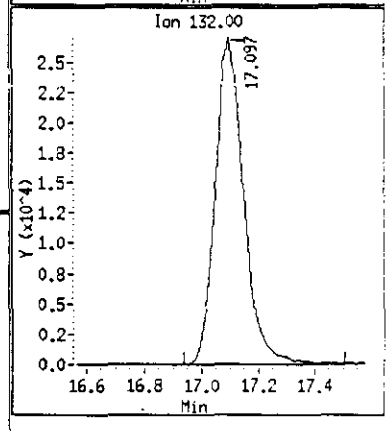
Column phase : DB-624 Column diameter : 0.54

Volume Injected (ul) : 0.0

24 Trichloroethene







2A-340

Data File: /chem/HPRTE2.i/october13.b/DVB316.d

Page 8

Date : 13-OCT-93 16:52

Instrument : HPRTE2.i

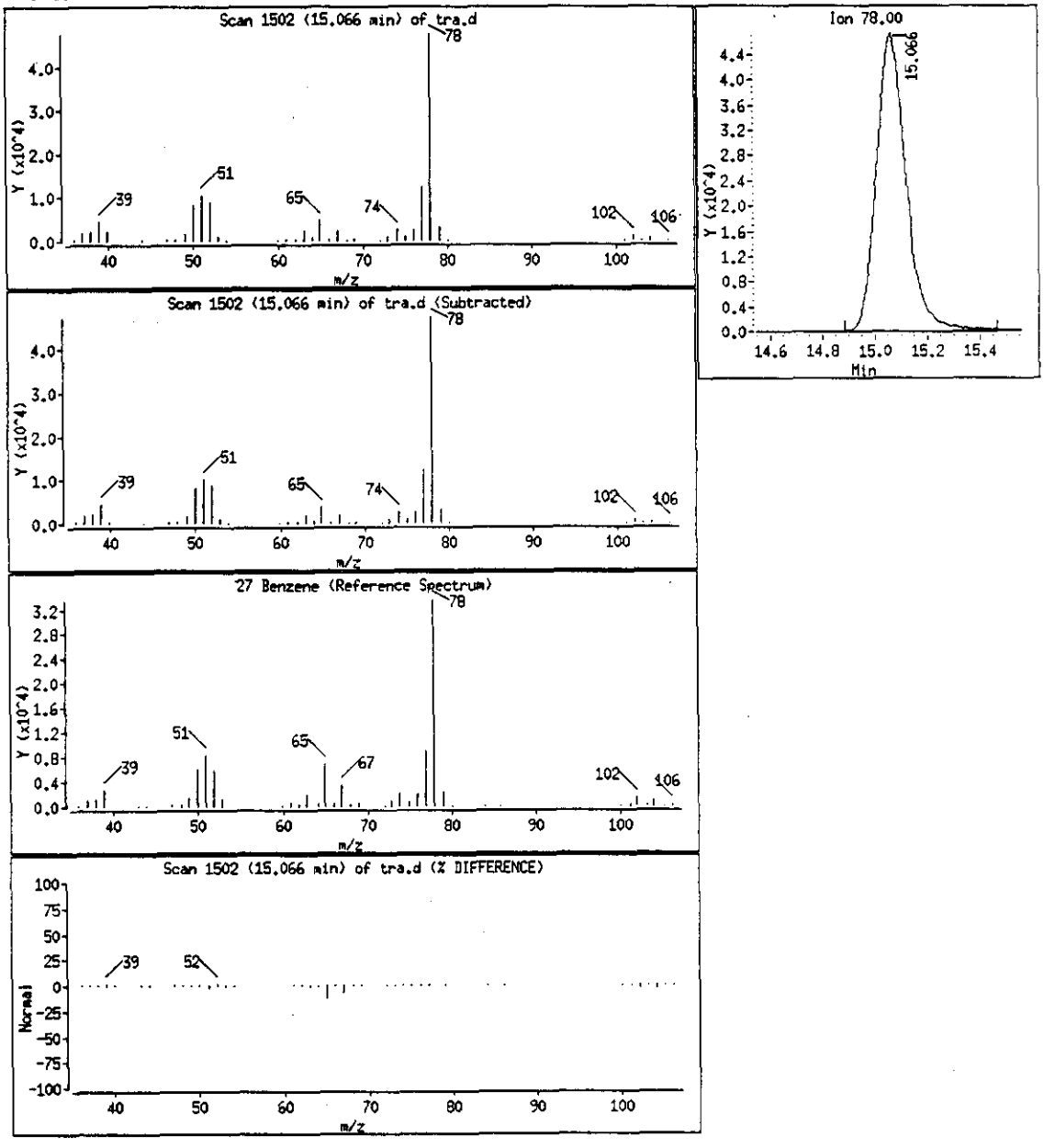
Sample ID : R3628MS

Column phase : DB-624

Column diameter : 0.54

Volume Injected (uL) : 0.0

27 Benzene



QA-341

Data File: /chem/HPRTE2.i/october13.b/DVB316.d

Date : 13-OCT-93 16:52

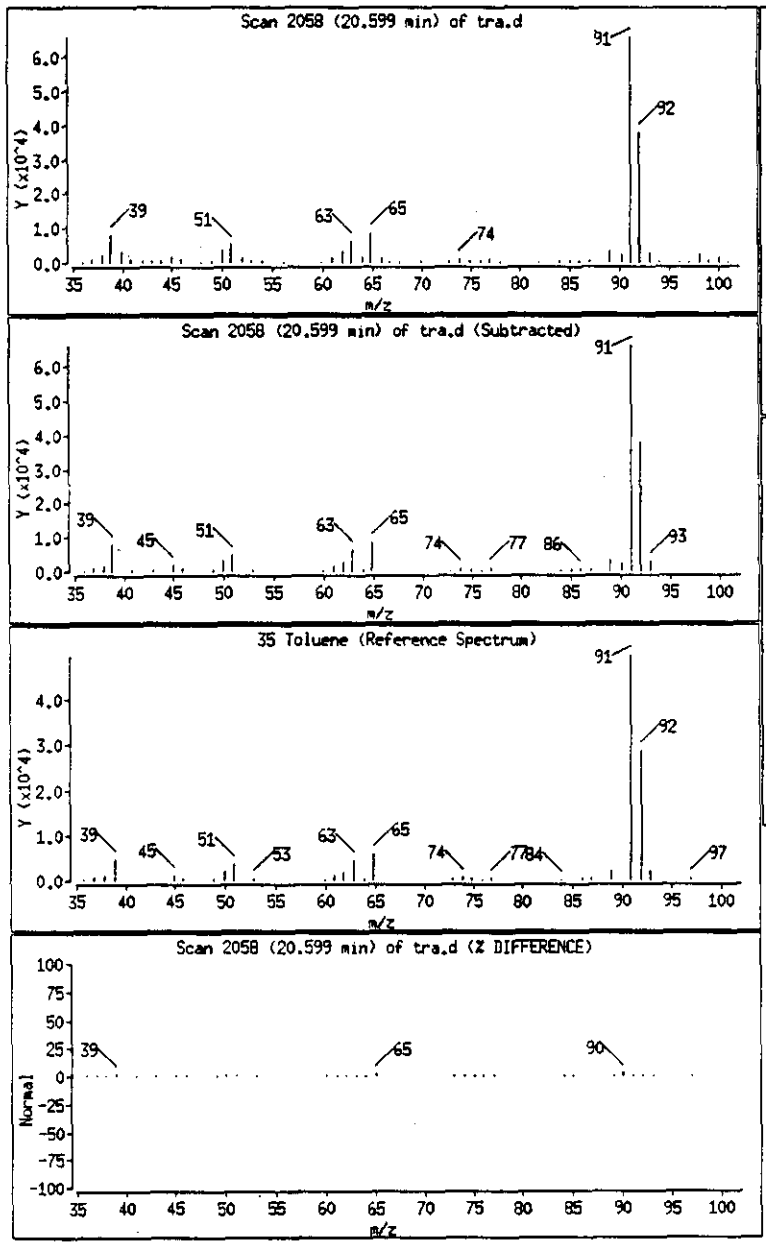
Instrument : HPRTE2.i

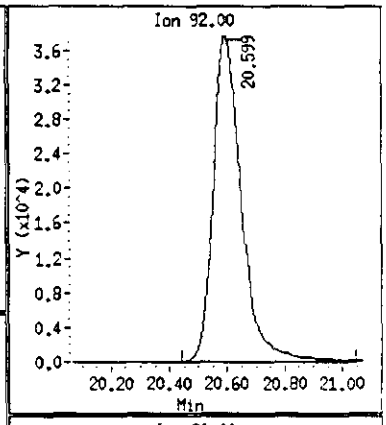
Sample ID : R3628MS

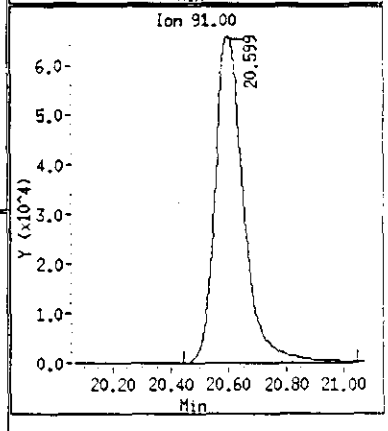
Column phase : DB-624 Column diameter : 0.54

Volume Injected (uL) : 0.0

35 Toluene







2A- 342

Data File: /chem/HPRTE2.i/october13.b/DVB316.d

Page 10

Date : 13-OCT-93 16:52

Instrument : HPRTE2.i

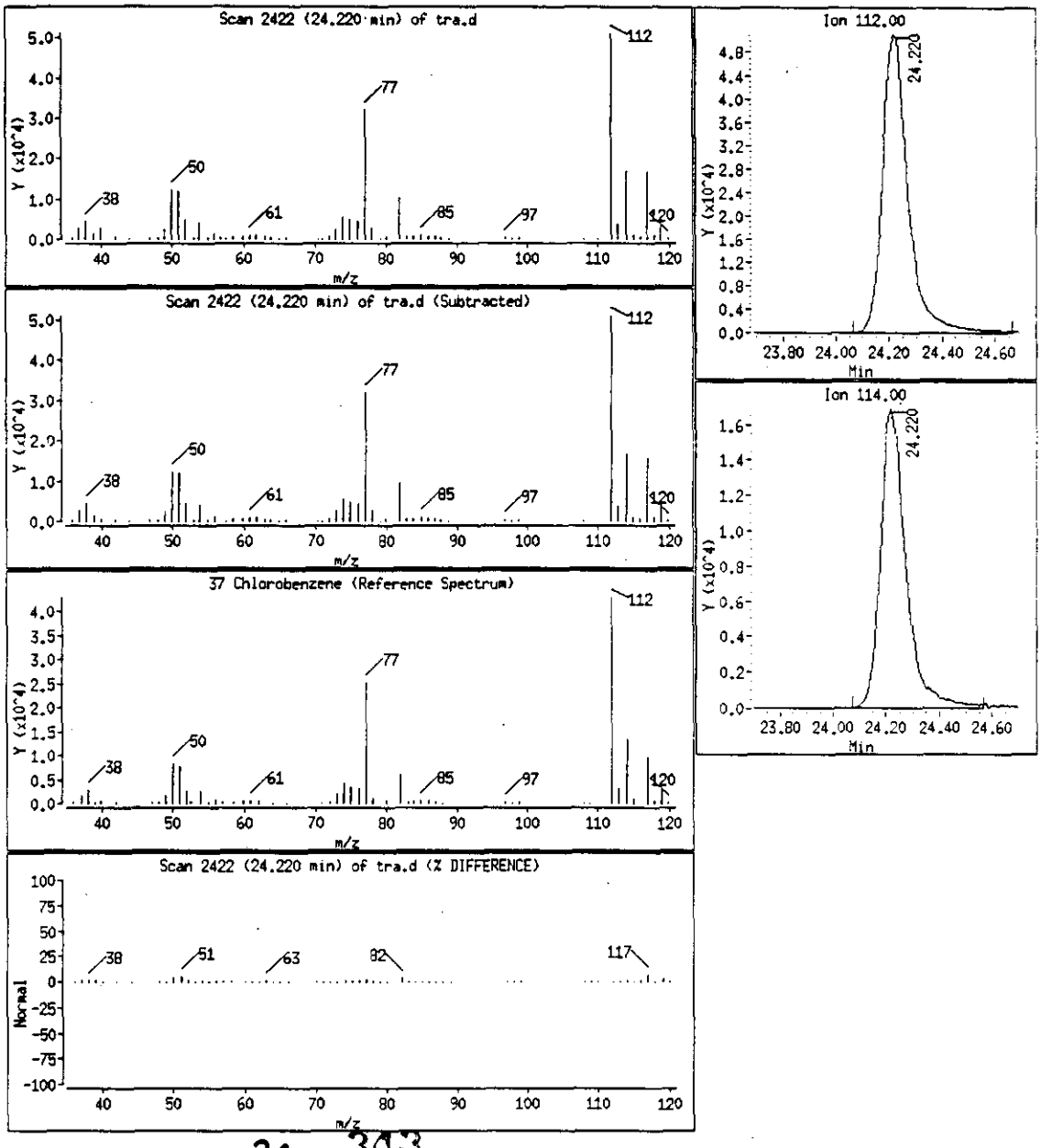
Sample ID : R3628MS

Column phase : DB-624

Column diameter : 0.54

Volume Injected (uL) : 0.0

37 Chlorobenzene



2A-343

Data File: /chem/HPRTE2.i/october13.b/DVB316.d

Page 11

Date : 13-OCT-93 16:52

Instrument : HPRTE2.i

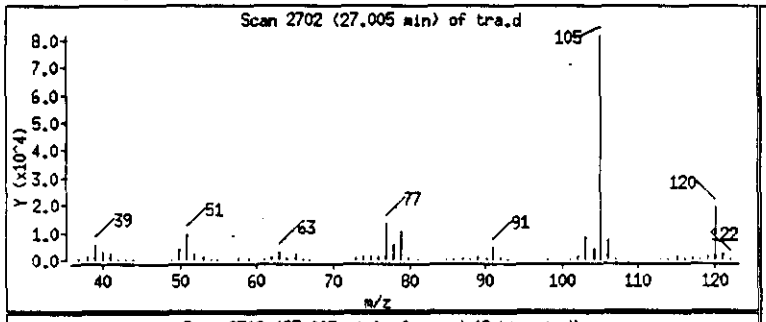
Sample ID : R3628MS

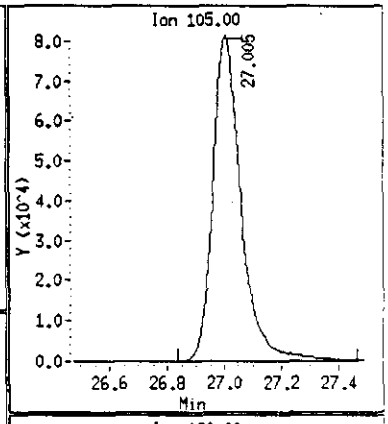
Column phase : DB-624

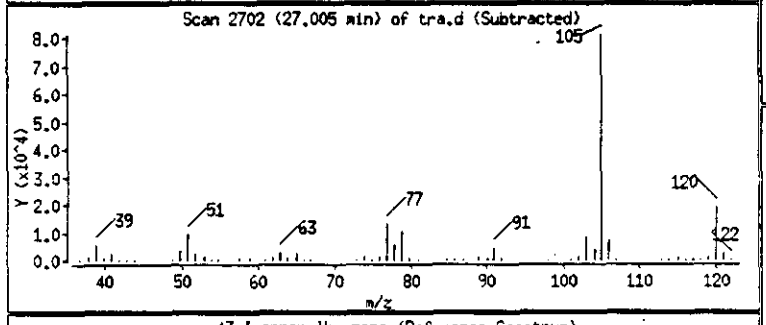
Column diameter : 0.54

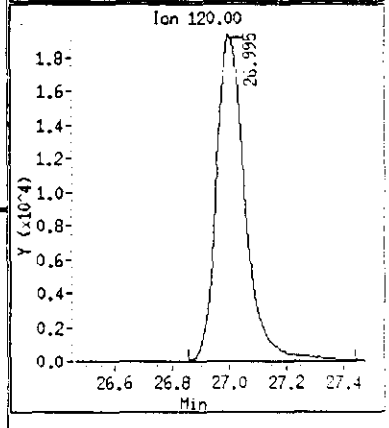
Volume Injected (uL) : 0.0

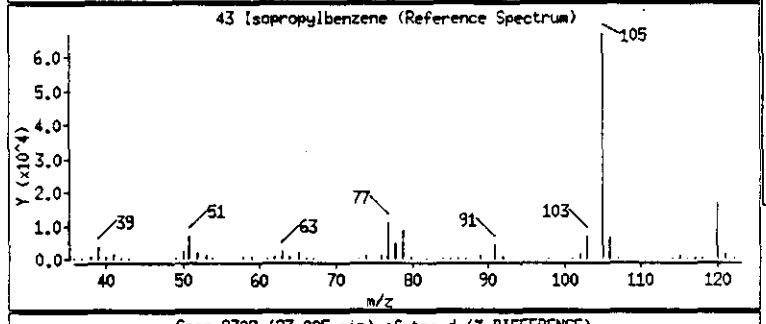
43 Isopropylbenzene

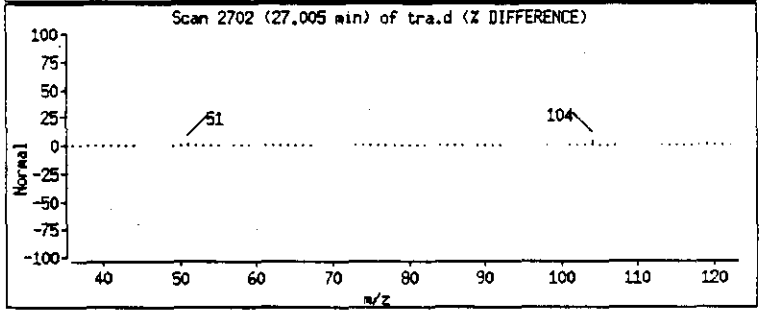












QA-344

Data File: /chem/HPRTE2.i/october13.b/DVB316.d

Page 12

Date : 13-OCT-93 16:52

Instrument : HPRTE2.i

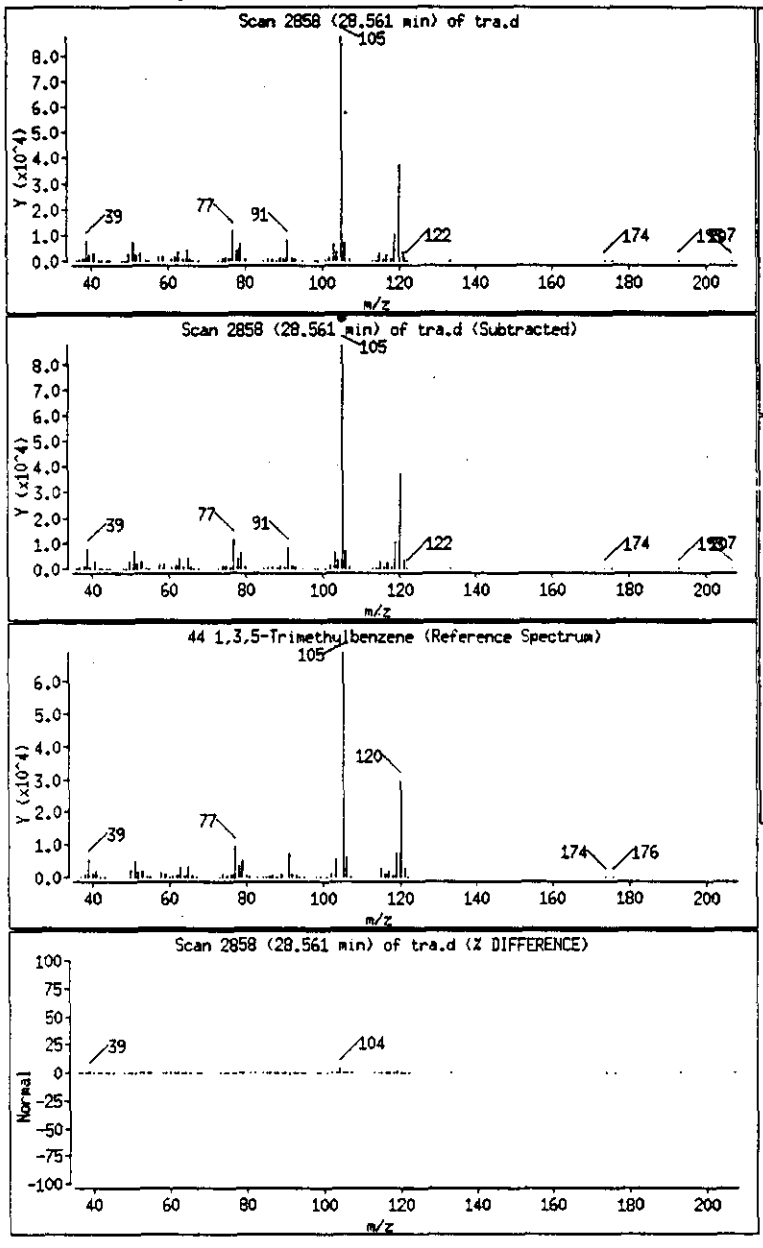
Sample ID : R3628MS

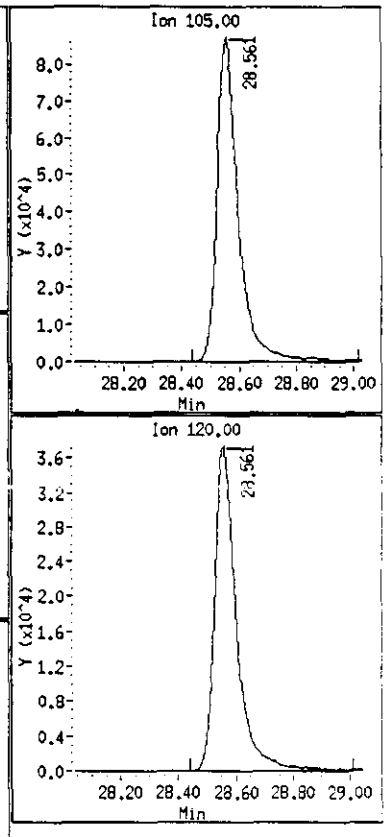
Column phase : DB-624

Column diameter : 0.54

Volume Injected (uL) : 0.0

44 1,3,5-Trimethylbenzene





2A-345

Data File: /chem/HPRTE2.i/october13.b/DVB316.d

Page 13

Date : 13-OCT-93 16:52

Instrument : HPRTE2.i

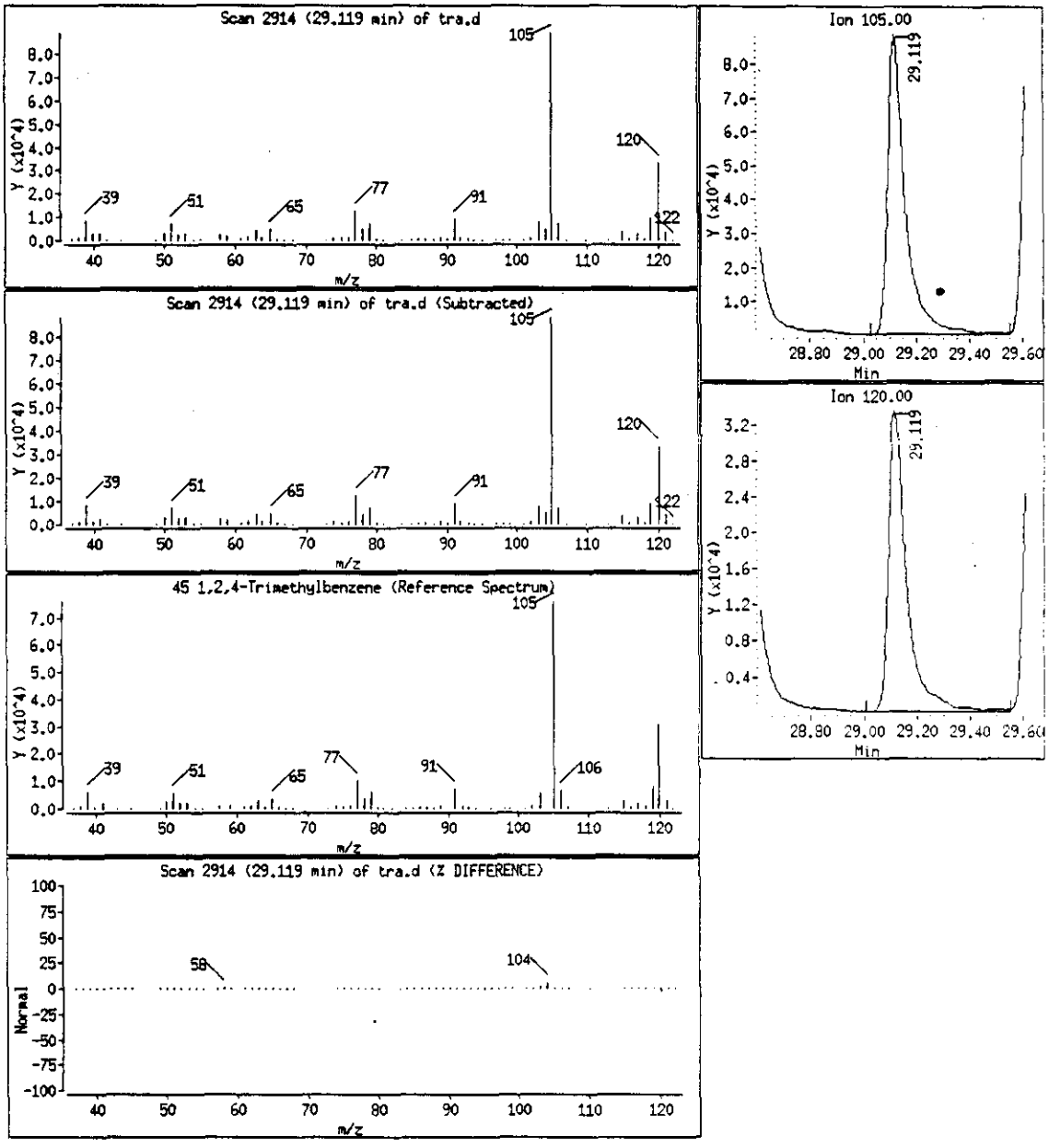
Sample ID : R3628MS

Column phase : DB-624

Column diameter : 0.54

Volume Injected (uL) : 0.0

45 1,2,4-Trimethylbenzene



2A-346

Data File: /chem/HPRTE2.i/october13.b/DVB316.d

Date : 13-OCT-93 16:52

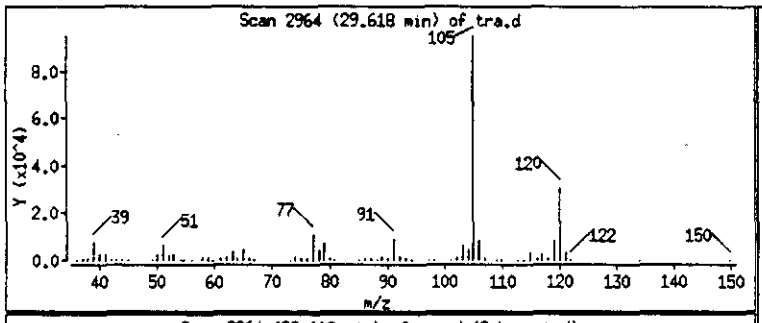
Instrument : HPRTE2.i

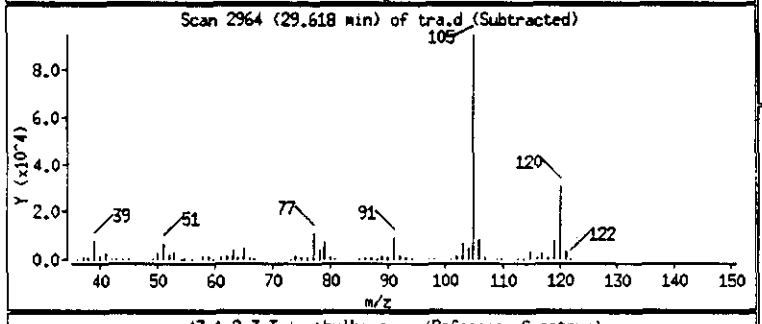
Sample ID : R3628MS

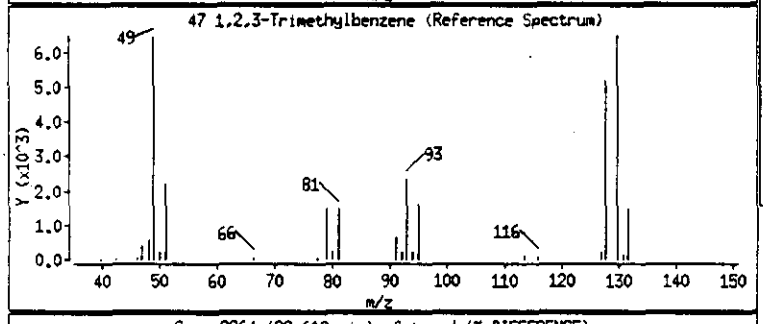
Column phase : DB-624 Column diameter : 0.54

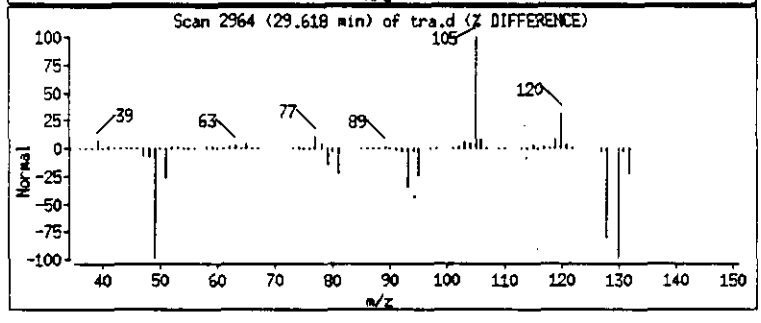
Volume Injected (uL) : 0.0

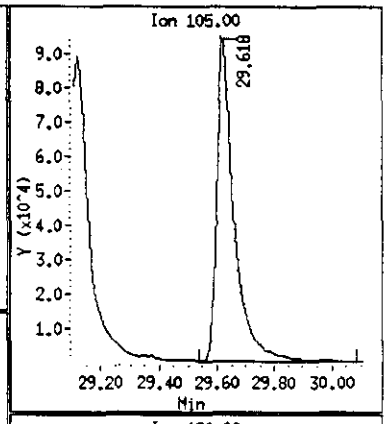
47 1,2,3-Trimethylbenzene

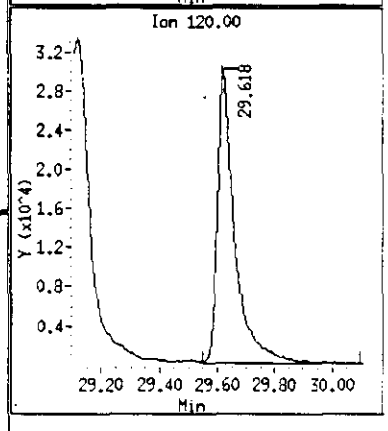










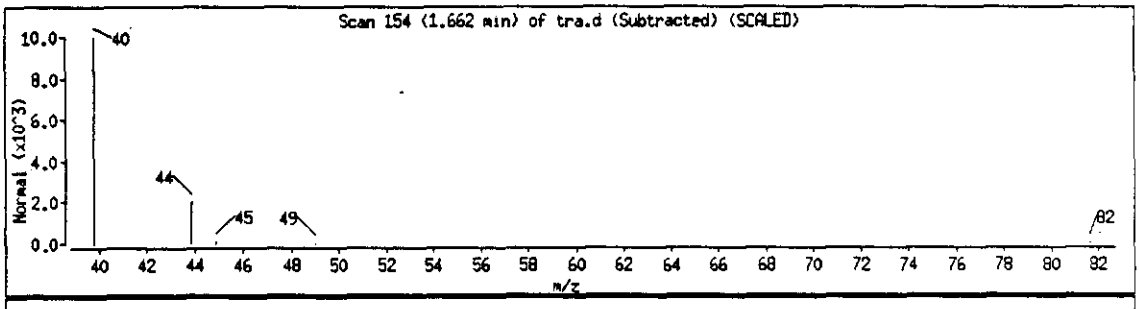


2A - 347

Data File: /chem/HPRTE2.i/october13.b/DVB316.d

Date : 13-OCT-93 16:52
Instrument : HPRTE2.i
Sample ID : R3628MS
Column phase : DB-624 Column diameter : 0.54
Volume Injected (uL) : 0.0

Library Search Compound Match	CAS Number	Library	Lib Entry	Quality
UNKNOWN				

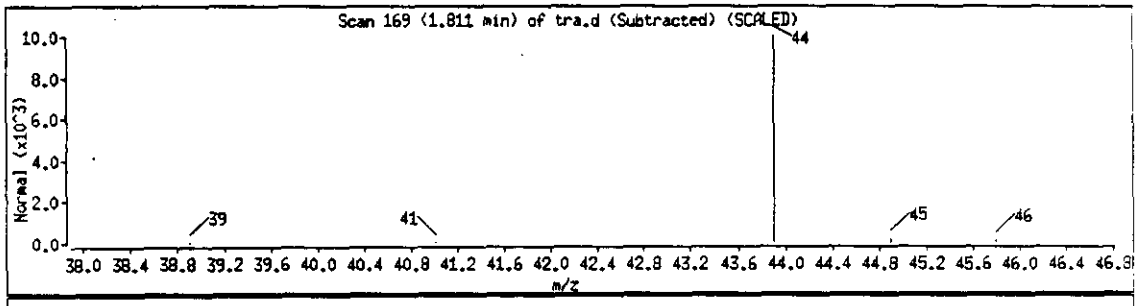


2A-348

Data File: /chem/HPRTE2.i/october13.b/DVB316.d

Date : 13-OCT-93 16:52
Instrument : HPRTE2.i
Sample ID : R3628MS
Column phase : DB-624 Column diameter : 0.54
Volume Injected (uL) : 0.0

Library Search Compound Match	CAS Number	Library	Lib Entry	Quality
UNKNOWN				



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Data File: /chem/HPRTE2.i/october13.b/DVB317.d
Report Date: 01-Dec-1993 15:52

Battelle PNL

Data file : /chem/HPRTE2.i/october13.b/DVB317.d
Lab. Id. : 93-08655MSD
Inj Date : 13-OCT-93 17:28
Operator : Gerald A. Ross
Smp Info : 93-08655MSD (from RTE file >VB317)
Misc Info : R3628MSD 107AP
Comment :
Method : /chem/HPRTE2.i/october13.b/voaevap.m
Meth Date : 01-Dec-1993 15:47 target
Cal Date : 13-OCT-1993 07:35
Als bottle: 0
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: WATER

Quant Type: ISTD
Autotune Date: light Savings Time
Inst ID: HPRTE2.i
Cal File: DVB3B2.d
QC Sample: MSD
Target Version: Target 2.40
Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
* 1 Bromochloromethane	128.00	13.195	(1.000)	86181	50	
2 Chloromethane	50.00	Compound Not Detected.				
3 Bromomethane	94.00	Compound Not Detected.				
4 Vinyl Chloride	62.00	Compound Not Detected.				
5 Chloroethane	64.00	Compound Not Detected.				
6 Methylene Chloride	84.00	Compound Not Detected.				
7 Acetone	43.00	Compound Not Detected.				
8 Carbon Disulfide	76.00	Compound Not Detected.				
9 1,1-Dichloroethene	96.00	6.729	(0.510)	132350	65	3200
10 1,1-Dichloroethane	63.00	Compound Not Detected.				
11 trans-1,2-Dichloroethene	96.00	Compound Not Detected.				
12 cis-1,2-Dichloroethene	61.00	Compound Not Detected.				
13 Chloroform	83.00	Compound Not Detected.				
$ 14 1,2-Dichloroethane-d4	65.00	15.035	(1.139)	135809	49	2400
15 1,2-Dichloroethane	62.00	Compound Not Detected.				
16 2-Butanone	72.00	Compound Not Detected.				
17 1,1,1-Trichloroethane	97.00	Compound Not Detected.				
18 Carbon Tetrachloride	117.00	Compound Not Detected.				
19 Vinyl Acetate	43.00	Compound Not Detected.				
20 Bromodichloromethane	83.00	Compound Not Detected.				
46 Tetrahydrofuran	42.00	13.384	(1.014)	14825	42	2100
* 21 1,4-Difluorobenzene	114.00	16.569	(1.000)	435439	50	
22 1,2-Dichloropropane	63.00	Compound Not Detected.				
23 cis-1,3-Dichloropropene	75.00	Compound Not Detected.				
24 Trichloroethene	130.00	17.147	(1.035)	193358	48	2400
25 Dibromochloromethane	129.00	Compound Not Detected.				
26 1,1,2-Trichloroethane	97.00	Compound Not Detected.				
27 Benzene	78.00	15.135	(0.913)	371280	50	2500
28 trans-1,3-Dichloropropene	75.00	Compound Not Detected.				

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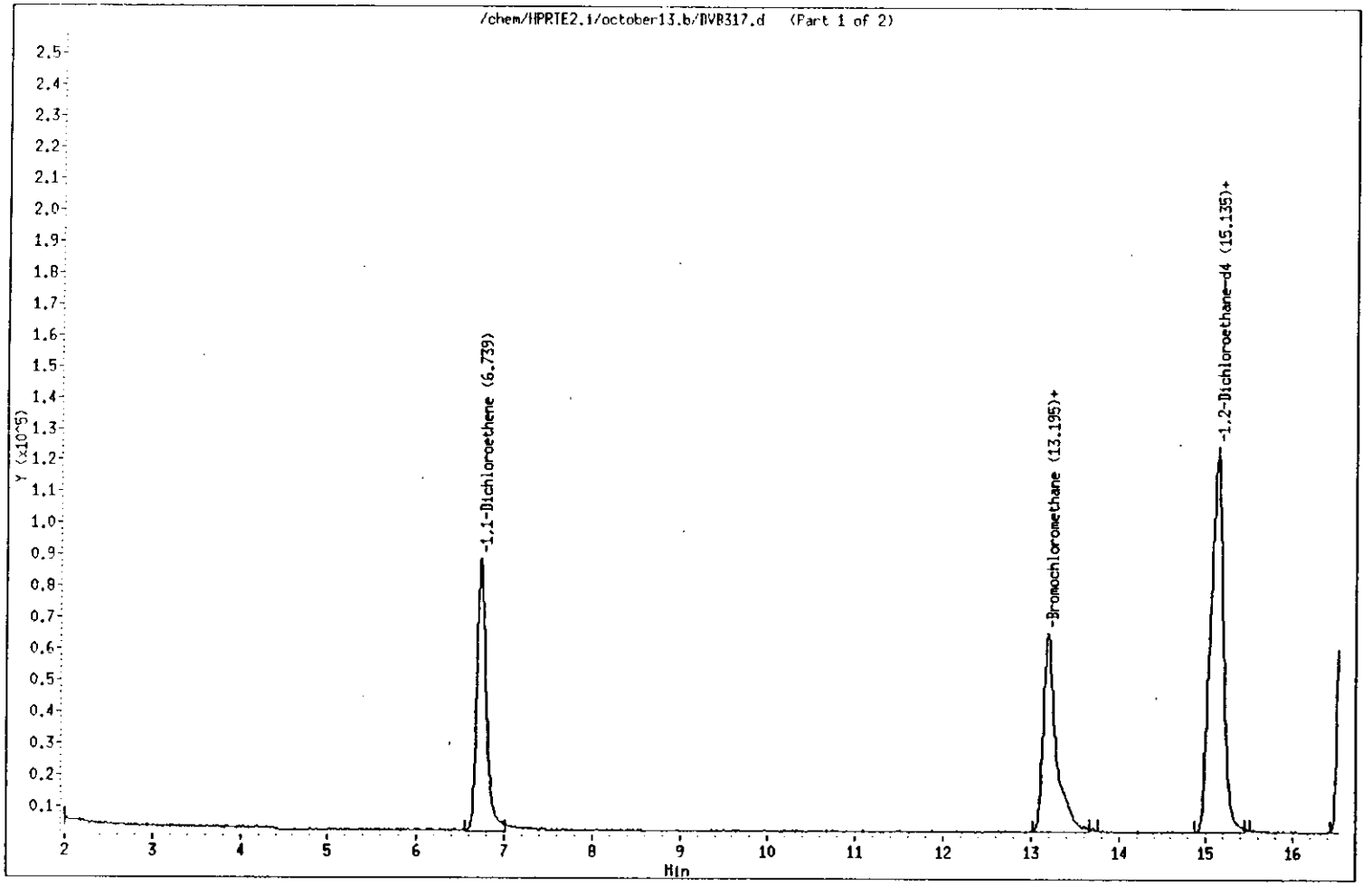
Data File: /chem/HPRTE2.i/october13.b/DVB317.d
Report Date: 01-Dec-1993 15:52

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
	29 Bromoform	173.00	Compound Not Detected.				
*	30 Chlorobenzene-d5	117.00	24.160	(1.000)	347927	50	
	31 4-Methyl-2-Pentanone	43.00	Compound Not Detected.				
	32 2-Hexanone	43.00	Compound Not Detected.				
	33 Tetrachloroethene	164.00	Compound Not Detected.				
	34 1,1,2,2-Tetrachloroethane	83.00	Compound Not Detected.				
	35 Toluene	92.00	20.628	(0.854)	246707	52	2600
$	36 Toluene-d8	98.00	20.459	(0.847)	370129	50	2500
	37 Chlorobenzene	112.00	24.230	(1.003)	324249	48	2400
	38 Ethylbenzene	106.00	Compound Not Detected.				
	39 Styrene	104.00	Compound Not Detected.				
	40 m&p-Xylene	106.00	Compound Not Detected.				
	41 o-Xylene	106.00	Compound Not Detected.				
$	42 Bromofluorobenzene	95.00	27.325	(1.131)	246218	50	2500
	43 Isopropylbenzene	105.00	27.006	(1.118)	589590	54	2700
	44 1,3,5-Trimethylbenzene	105.00	28.551	(1.182)	435588	50	2500
	45 1,2,4-Trimethylbenzene	105.00	29.119	(1.205)	414293	52	2600
	47 1,2,3-Trimethylbenzene	105.00	29.619	(1.226)	374863	46	2300

Data File: /chem/HPRTE2.1/october13.b/DVB317.d
Date : 13-OCT-93 17:28
Instrument : HPRTE2.1
Sample ID : R3628MSD
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54



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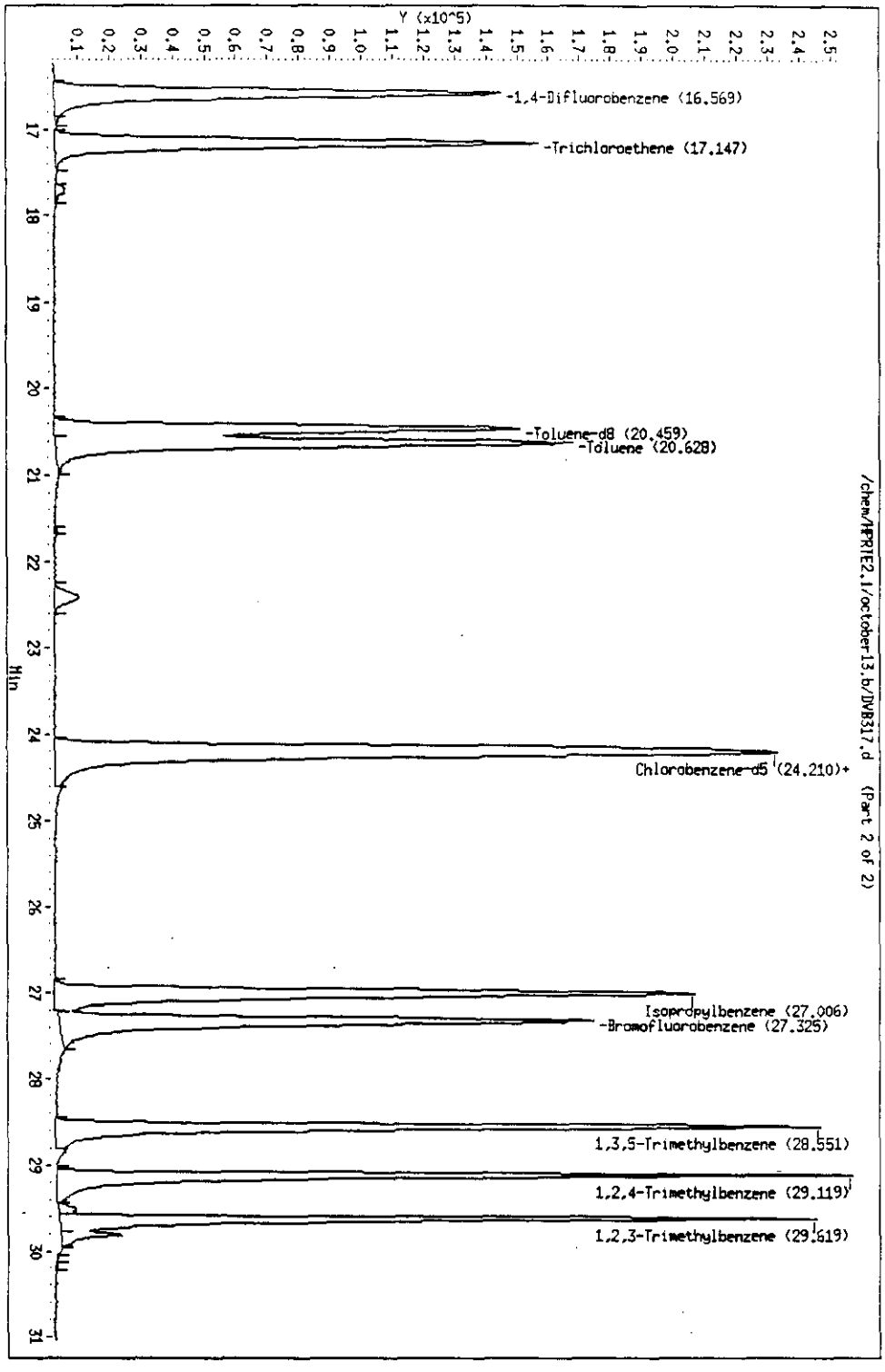

Data File: /chem/HPRTE2.1/october13.b/DVB317.d
Date : 13-OCT-93 17:28
Instrument : HPRTE2.1
Sample ID : R3628MSD
Column phase : DB-624
Volume Injected (uL) : 0.0
Column diameter : 0.54
/chem/HPRTE2.1/october13.b/DVB317.d (Part 2 of 2)
Y (x10^5)
Min
-1,4-Difluorobenzene (16.569)
-Trichloroethene (17.147)
-Toluene-d8 (20.459)
-Toluene (20.628)
Chlorobenzene-d5 (24.210)+
Isopropylbenzene (27.006)
-Bromofluorobenzene (27.325)
1,3,5-Trimethylbenzene (28.551)
1,2,4-Trimethylbenzene (29.119)
1,2,3-Trimethylbenzene (29.619)

Data File: /chem/HPRTE2.i/october13.b/DVB317.d

Page 5

Date : 13-OCT-93 17:28

Instrument : HPRTE2.i

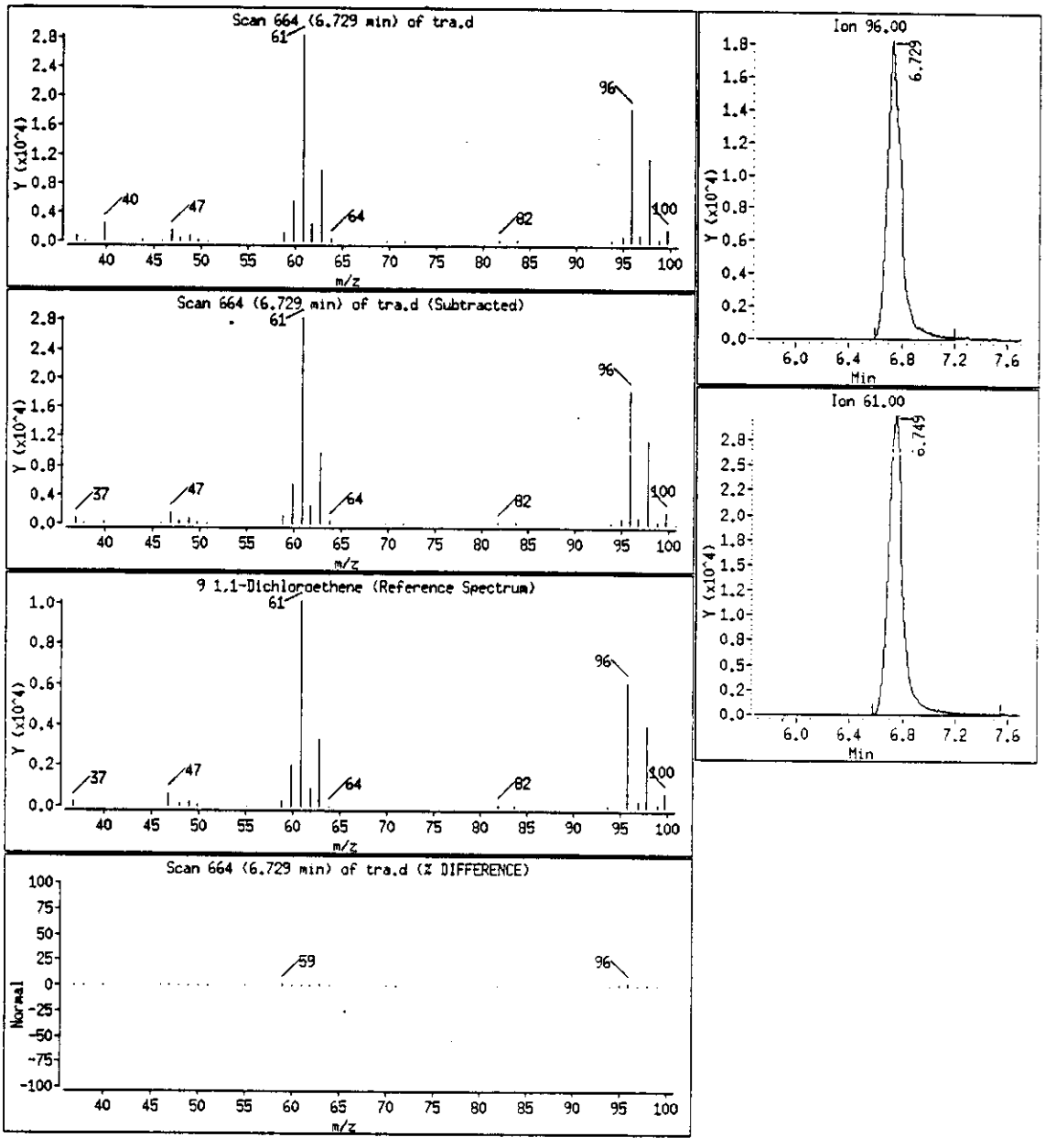
Sample ID : R3628MSD

Column phase : DB-624

Column diameter : 0.54

Volume Injected (uL) : 0.0

9 1,1-Dichloroethene



Data File: /chem/HPRTE2.i/october13.b/DVB317.d

Page 6

Date : 13-OCT-93 17:28

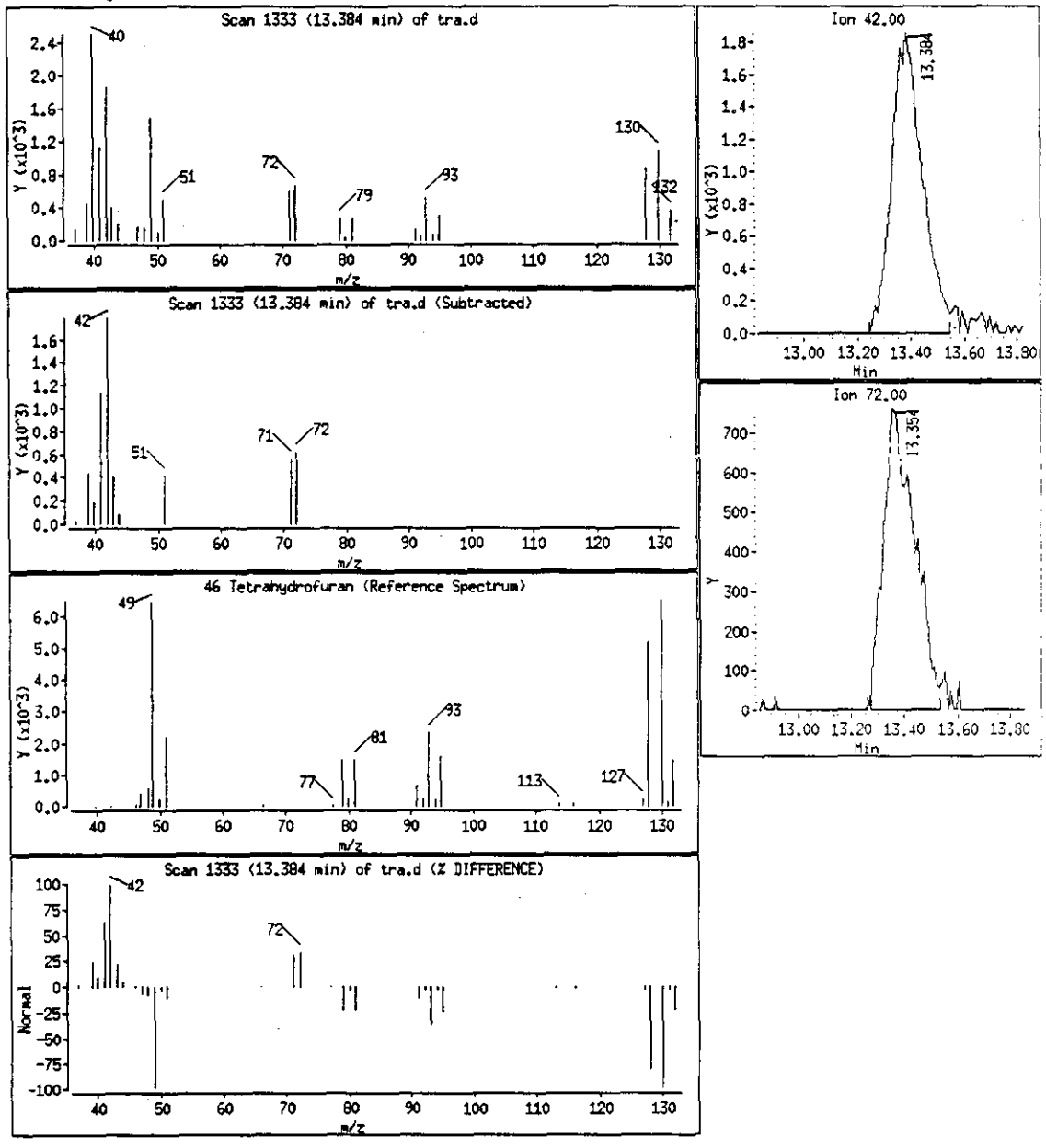
Instrument : HPRTE2.i

Sample ID : R3628MSD

Column phase : DB-624 Column diameter : 0.54

Volume Injected (uL) : 0.0

46 Tetrahydrofuran



Data File: /chem/HPRTE2.i/october13.b/DVB317.d

Date : 13-OCT-93 17:28

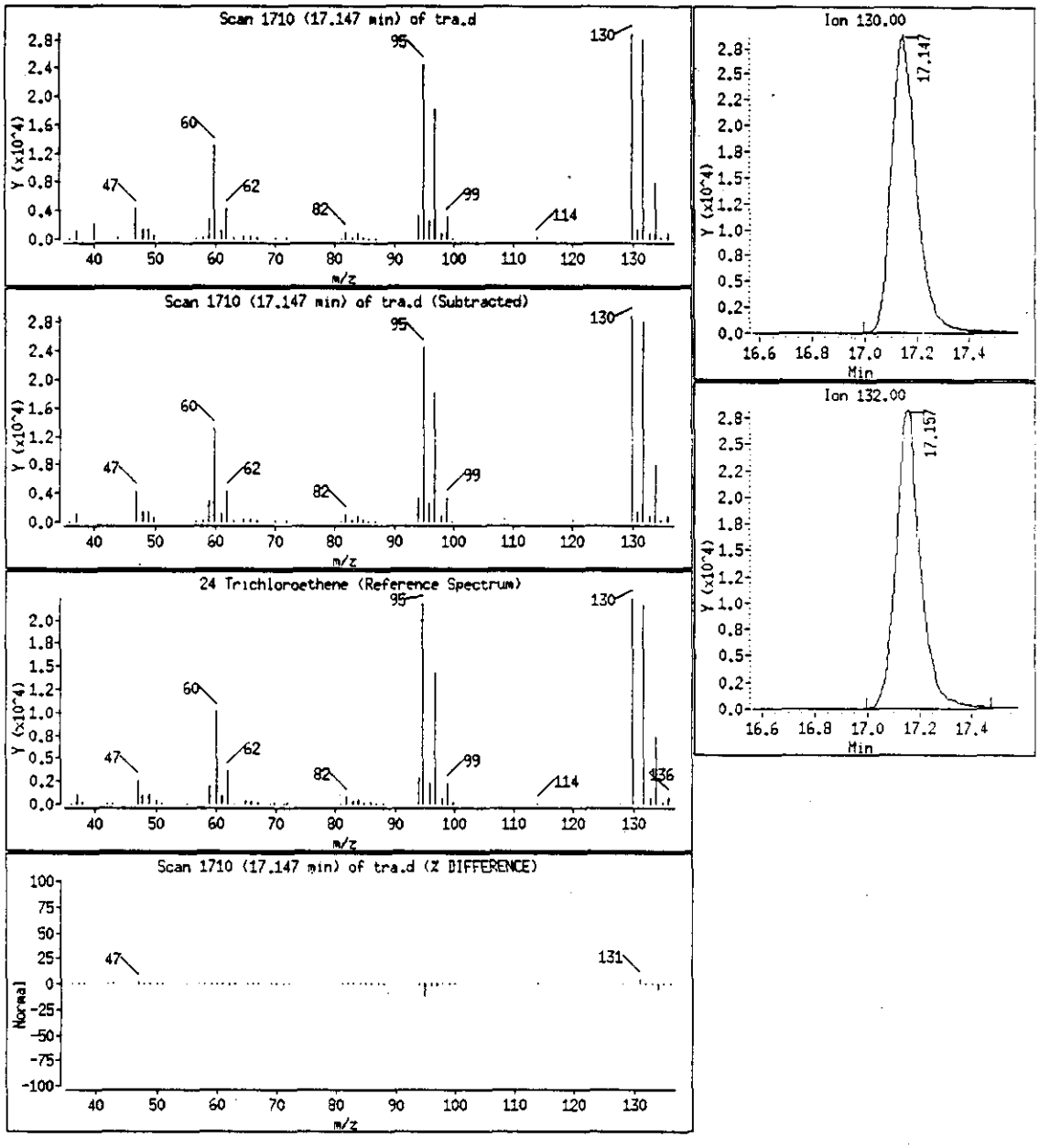
Instrument : HPRTE2.i

Sample ID : R3628MSD

Column phase : DB-624 . Column diameter : 0.54

Volume Injected (uL) : 0.0

24 Trichloroethene



Data File: /chem/HPRTE2.i/october13.b/DVB317.d

Date : 13-OCT-93 17:28

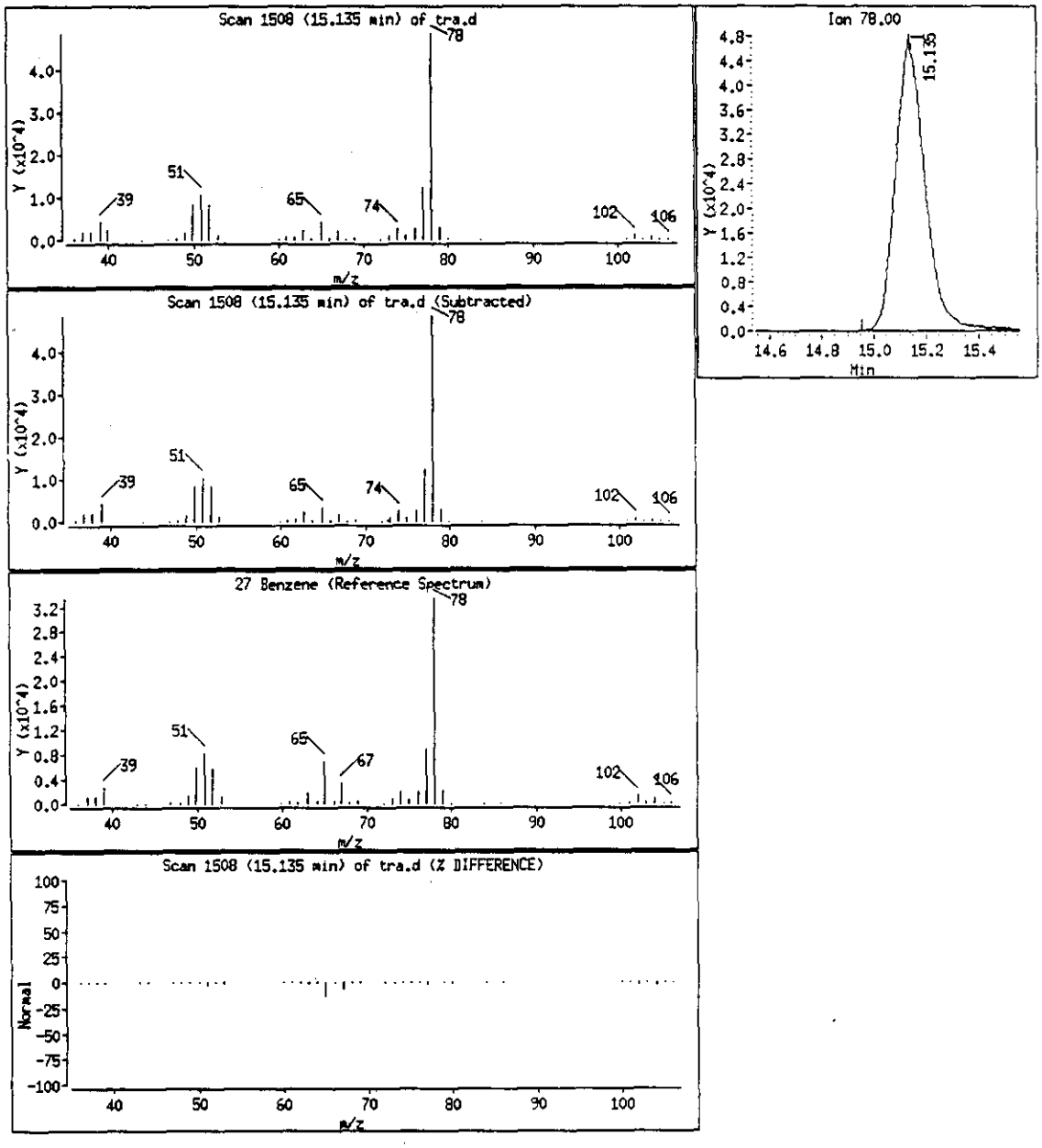
Instrument : HPRTE2.i

Sample ID : R3628MSD

Column phase : DB-624 Column diameter : 0.54

Volume Injected (uL) : 0.0

27 Benzene



2A-357

Data File: /chem/HPRTE2.i/october13.b/DVB317.d

Date : 13-OCT-93 17:28

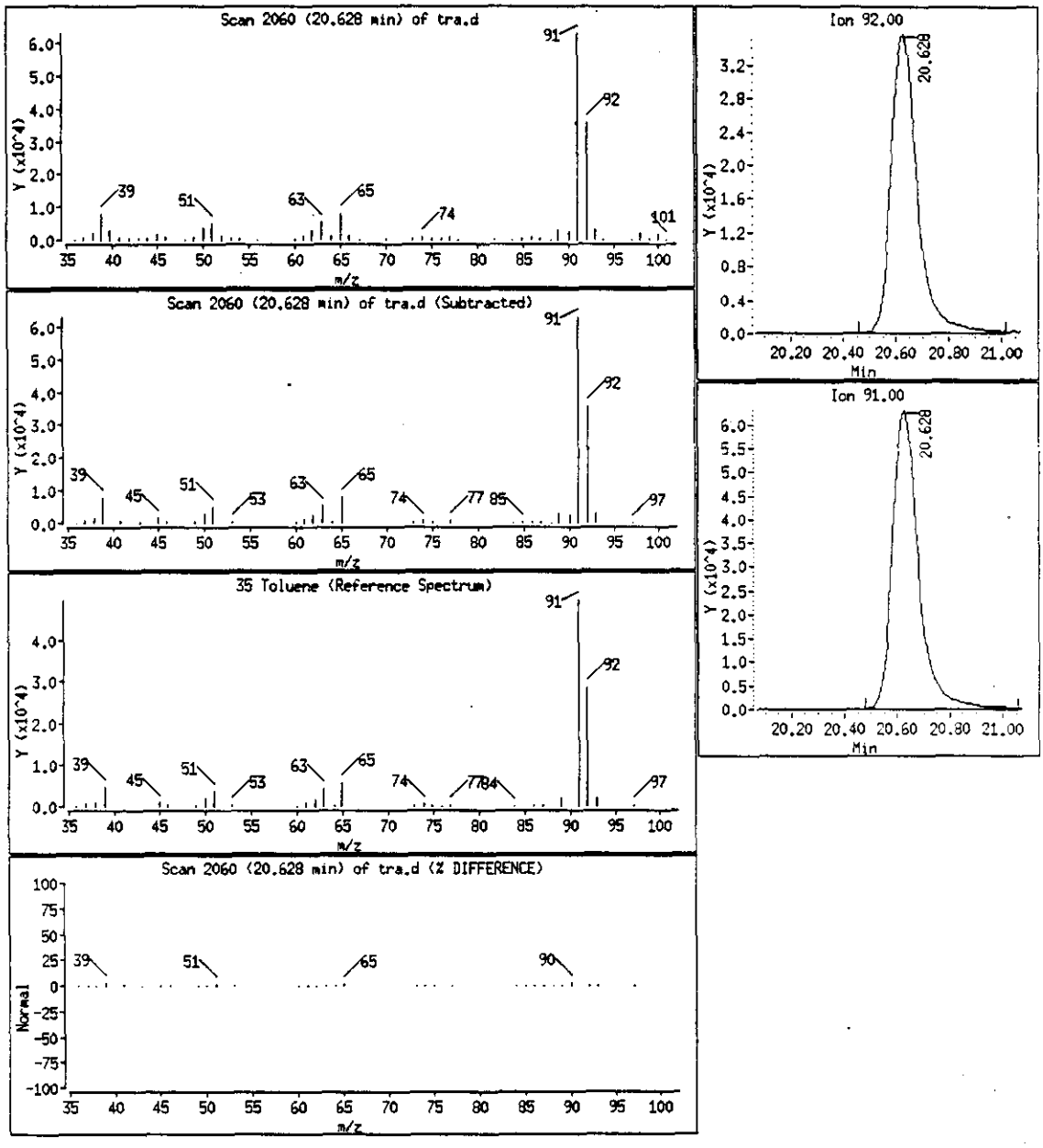
Instrument : HPRTE2.i

Sample ID : R3628MSD

Column phase : DB-624 Column diameter : 0.54

Volume Injected (uL) : 0.0

35 Toluene



2A 358

Data File: /chem/HPRTE2.i/october13.b/DVB317.d

Date : 13-OCT-93 17:28

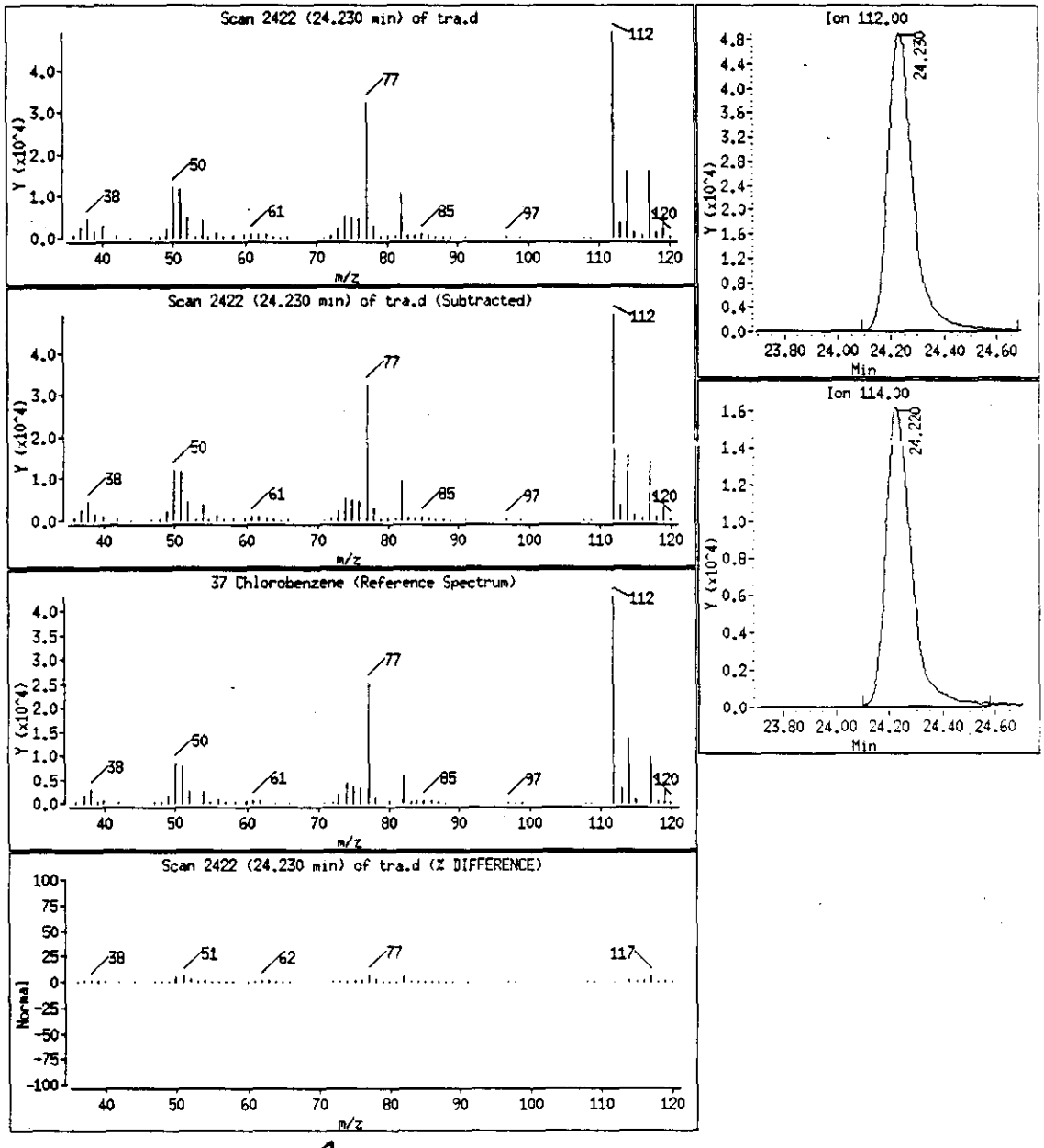
Instrument : HPRTE2.i

Sample ID : R3628MSD

Column phase : DB-624 Column diameter : 0.54

Volume Injected (uL) : 0.0

37 Chlorobenzene



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Data File: /chem/HPRTE2.i/october13.b/DVB317.d

Page 11

Date : 13-OCT-93 17:28

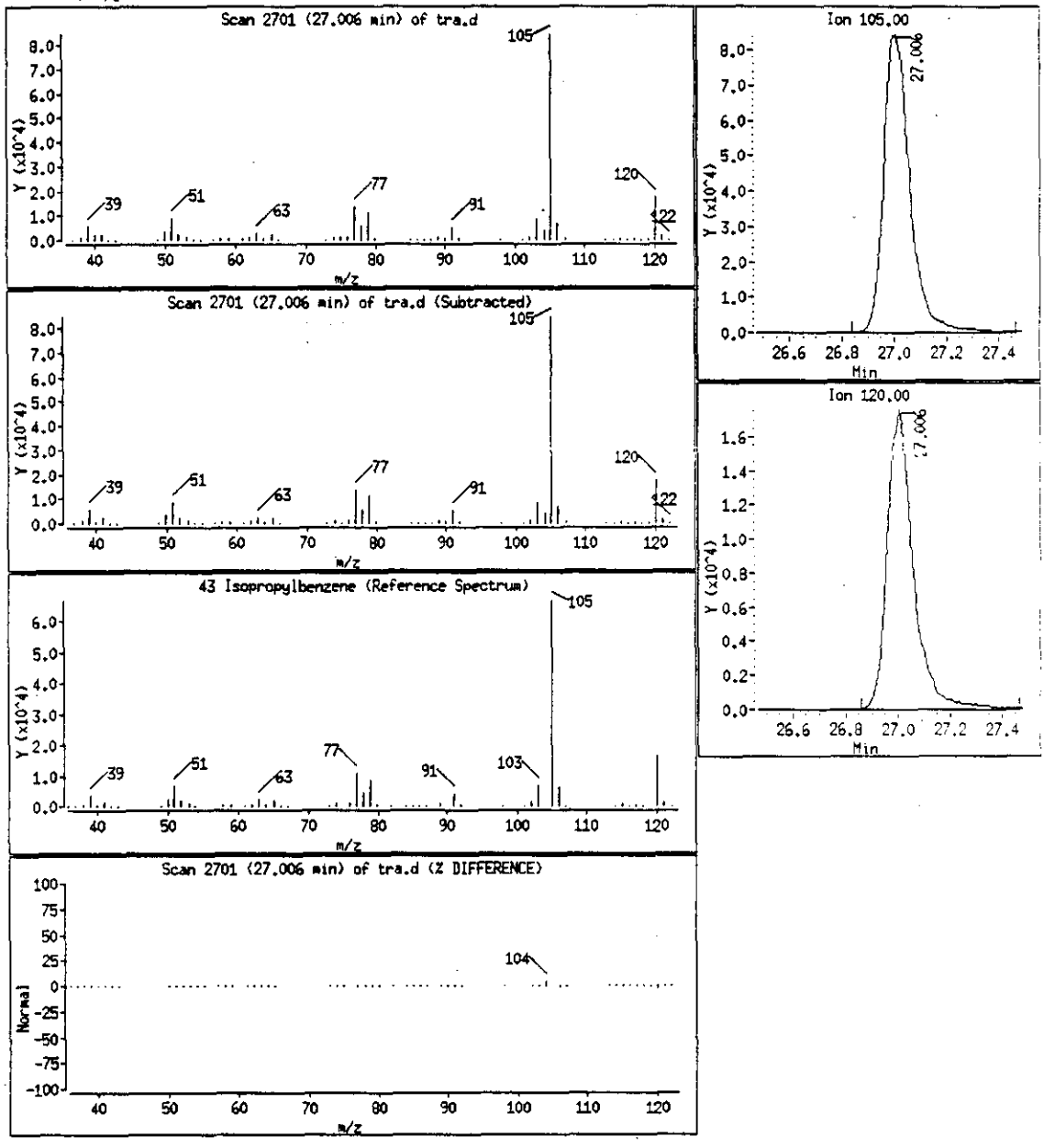
Instrument : HPRTE2.i

Sample ID : R3628MSD

Column phase : DB-624 Column diameter : 0.54

Volume Injected (uL) : 0.0

43 Isopropylbenzene



2A -360

Data File: /chem/HPRTE2.i/october13.b/DVB317.d

Date : 13-OCT-93 17:28

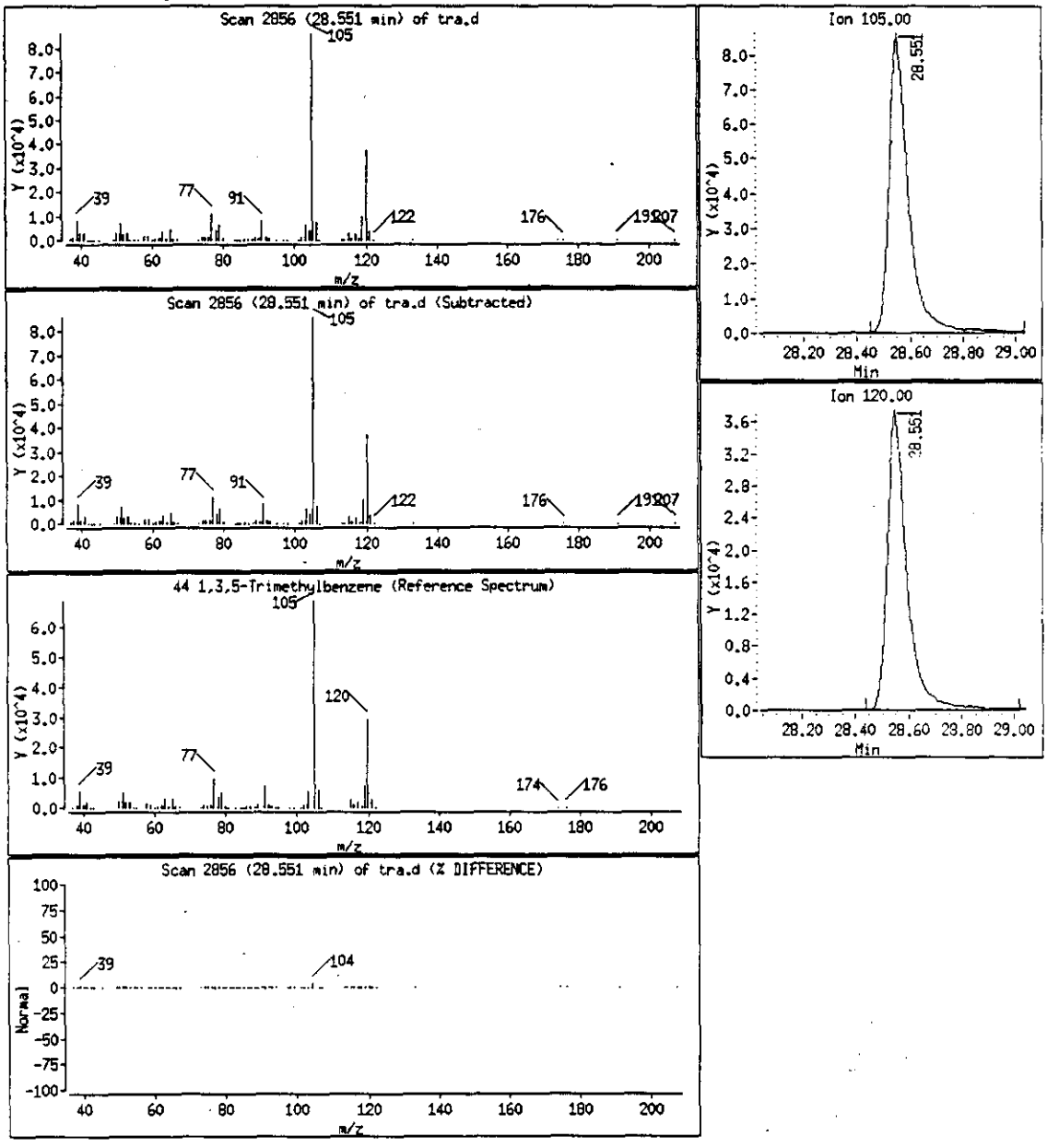
Instrument : HPRTE2.i

Sample ID : R3628MSD

Column phase : DB-624 Column diameter : 0.54

Volume Injected (uL) : 0.0

44 1,3,5-Trimethylbenzene



2A -361

Data File: /chem/HPRTE2.i/october13.b/DVB317.d

Page 13

Date : 13-OCT-93 17:28

Instrument : HPRTE2.i

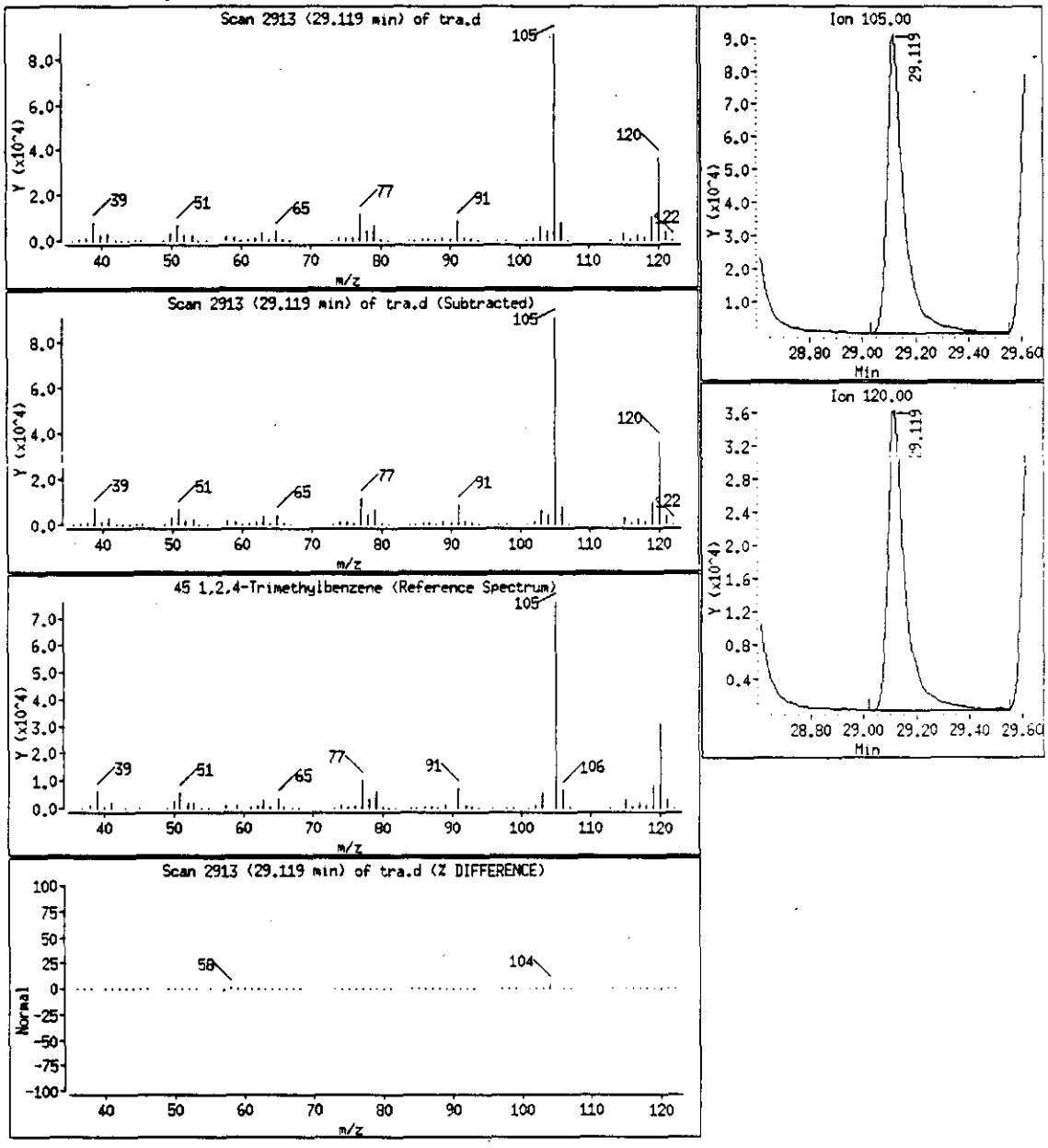
Sample ID : R3628MSD

Column phase : DB-624

Column diameter : 0.54

Volume Injected (uL) : 0.0

45 1,2,4-Trimethylbenzene



2A-362

Data File: /chem/HPRTE2.i/october13.b/DVB317.d

Date : 13-OCT-93 17:28

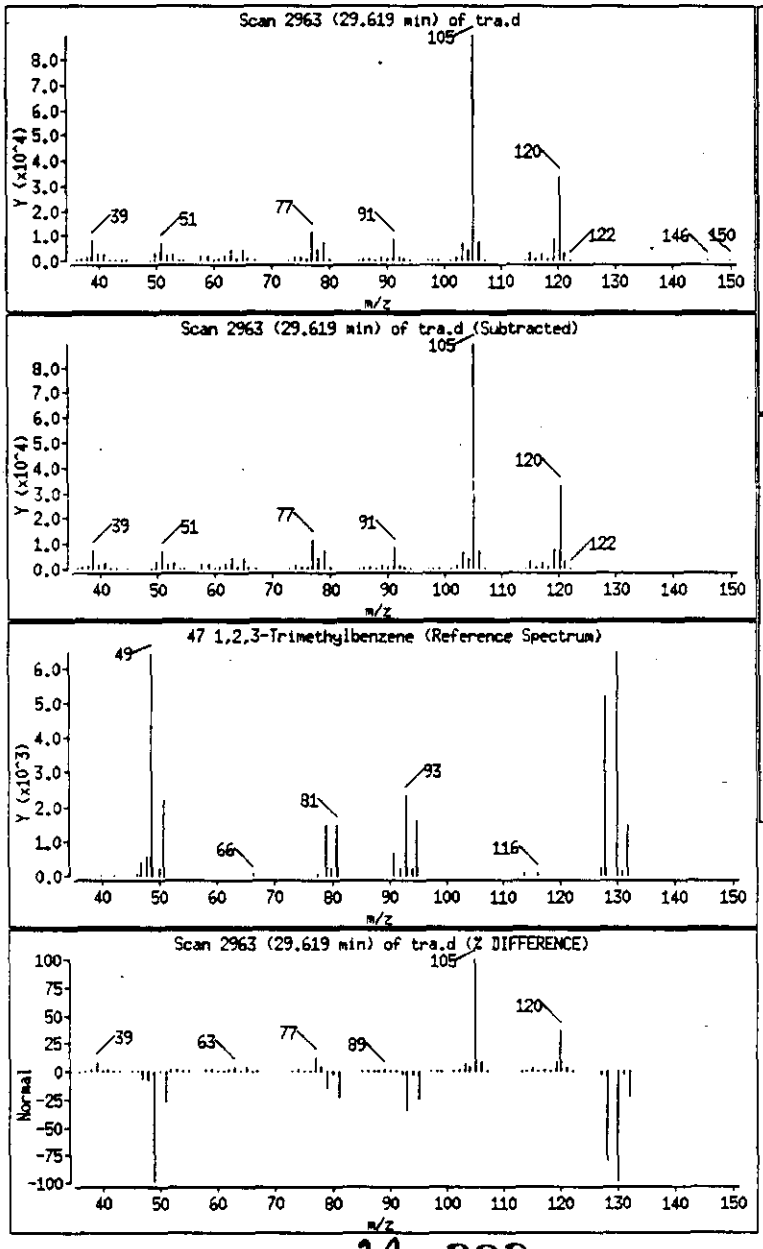
Instrument : HPRTE2.i

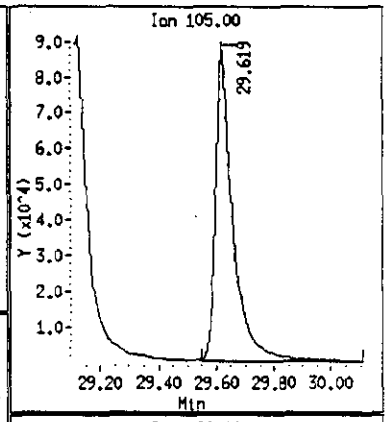
Sample ID : R3628MSD

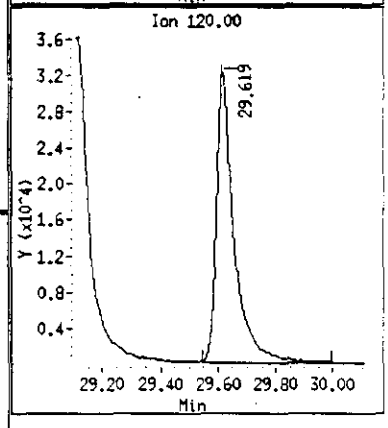
Column phase : DB-624 Column diameter : 0.54

Volume Injected (uL) : 0.0

47 1,2,3-Trimethylbenzene





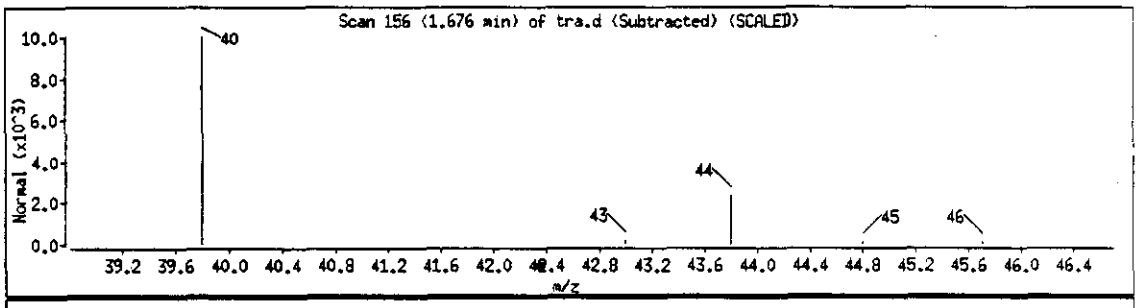


2A-363

Data File: /chem/HPRTE2.i/october13.b/DVB017.d

Date : 13-OCT-93 17:28
Instrument : HPRTE2.i
Sample ID : R3628MSD
Column phase : DB-624 Column diameter : 0.54
Volume Injected (uL) : 0.0

Library Search Compound Match	CAS Number	Library	Lib Entry	Quality
UNKNOWN				

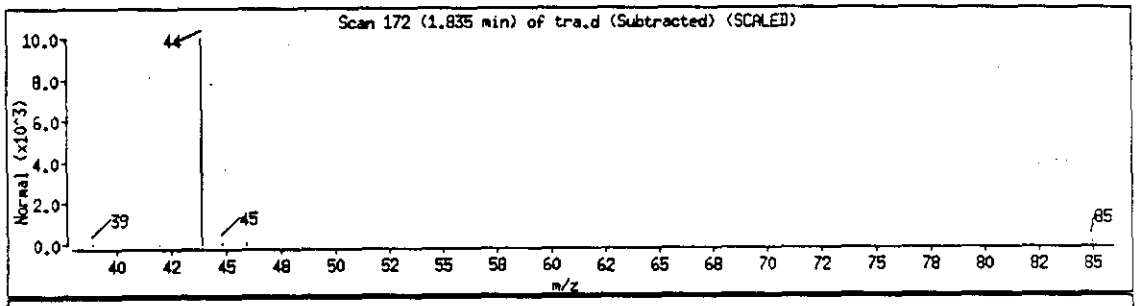


2A- 364

Data File: /chem/HPRTE2.i/october13.b/DVB317.d
Date : 13-OCT-93 17:28
Instrument : HPRTE2.i
Sample ID : R3628MSD
Column phase : DB-624
Volume Injected (uL) : 0.0

Column diameter : 0.54

Library Search Compound Match	CAS Number	Library	Lib Entry	Quality
UNKNOWN				



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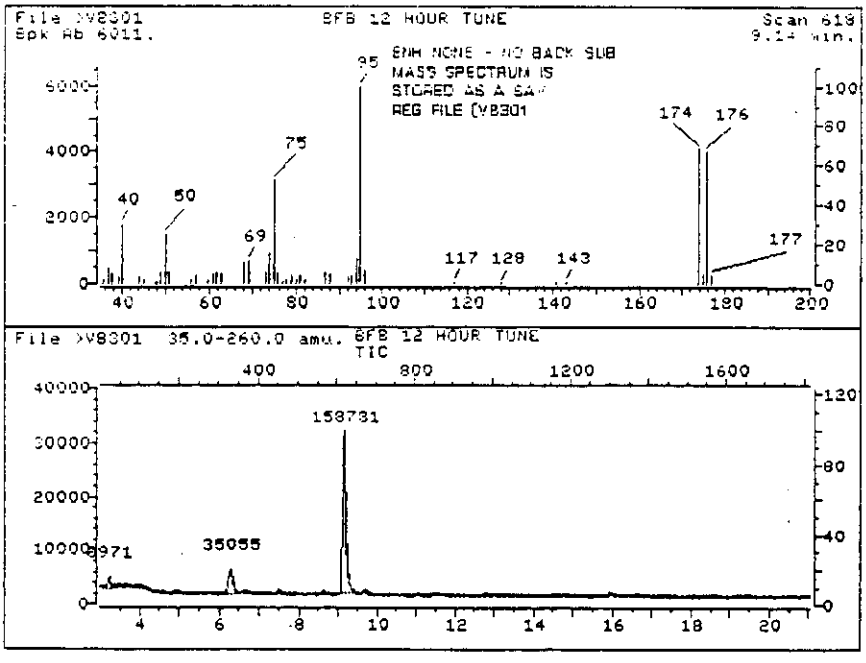
GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

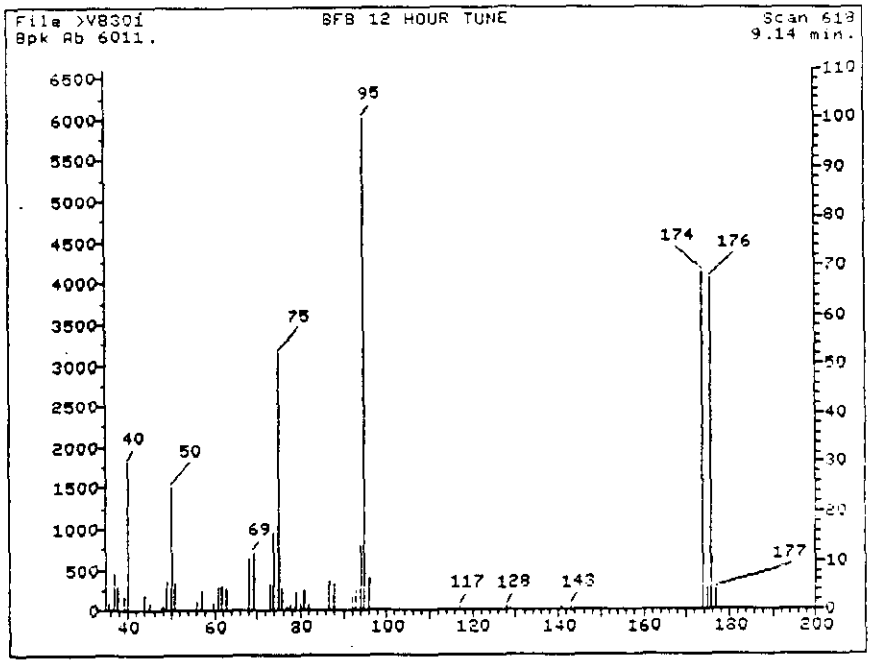
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	25.05	25.05	Ok
75	30-60% of mass 95	52.34	52.34	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.62	6.62	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	68.56	68.56	Ok
175	5-9% of mass 174	4.57	6.67	Ok
176	95-101% of mass 174	67.19	98.01	Ok
177	5-9% of mass 176	4.08	6.07	Ok

Injection Date: 10/13/93
Injection Time: 05:29
Data File: >V8301
Scan: 618



Instrument ID: VOA2 Analyzed on: 10/13/93 5:29

2A-366



Instrument ID: VOA2 Analyzed on: 10/13/93 5:29

>VB301 BFB 12 HOUR TUNE
618 NRM

File: >VB301 Scan #: 618 Retn. time: 9.14

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
35.80	1.447	49.90	25.054	68.95	11.579	79.85	1.214	95.90	6.621
36.80	7.586	51.00	5.390	72.85	5.257	80.85	4.142	116.95	.665
37.80	4.958	56.00	1.763	73.95	15.488	81.80	1.115	127.85	.632
39.00	2.861	56.90	4.109	74.95	52.337	86.80	5.956	140.90	.616
39.80	30.161	59.75	1.431	75.95	4.592	87.90	4.991	142.90	.865
43.80	2.978	60.85	4.874	76.75	.782	92.00	2.728	173.85	68.558
44.90	1.564	61.85	5.274	77.05	.898	92.90	4.259	174.90	4.575
47.90	.782	62.95	4.458	77.75	1.165	93.90	13.176	175.80	67.193
48.20	.799	67.85	10.464	78.75	3.677	94.90	100.000	176.80	4.076
48.90	5.922								

Instrument ID: VOA2 Analyzed on: 10/13/93 5:29

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Chlorobenzene	1.0025	1.0029	-.0045	.96172	.9388	1.0614
1,2-Dichloroethane-d4	1.1408	1.1406	-.0222	1.0633	1.5247	.73025
Toluene-d8	.84581	.84573	.00658	1.1548	1.1113	1.0008
Bromofluorobenzene	1.1320	1.1320	.00431	.75560	.7055	1.0562

QUANT REPORT Page 1

Operator ID: GERALD
Output File: ^VB3B2::OF
Data File: >VB3B2::D2
Name: DAILY CONT. CAL VOA2
Misc: 12HR CALIB. CHK. 50PPB

Quant Rev: 7
Quant Time: 931013 08:09
Injected at: 931013 07:35
Dilution Factor: 1.00000
Instrument ID: VOA2

ID File: IDVAP2::QT
Title: BATTELLE EPA CLP METHOD ANALYSIS (CAPILLARY)
Last Calibration: 930929 16:08
Last Qcal Time: 931006 11:25

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	13.13	1120	107116	50.00	ug/L	86
2)	Chloromethane	2.76	79	106124	57.46	ug/L	96
4)	Vinyl Chloride	2.94	97	108481	55.84	ug/L	88
5)	Chloroethane	4.26	229	69039	59.17	ug/L	71
6)	Methylene Chloride	8.36	641	140046	56.63	ug/L	87
7)	Acetone	7.20	525	77253	63.05	ug/L	83
8)	Carbon Disulfide	7.01	506	333698	55.44	ug/L	75
9)	1,1-Dichloroethene	6.70	475	97688	53.75	ug/L	92
10)	1,1-Dichloroethane	10.47	853	260863	57.35	ug/L	98
11)	trans-1,2-Dichloroethene	9.17	723	145079	57.39	ug/L	92
12)	cis-1,2-Dichloroethene	12.35	1042	208670	57.14	ug/L	97
13)	Chloroform	13.61	1169	335368	55.73	ug/L	94
14)	1,2-Dichloroethane-d4	14.97	1305	161441	51.76	ug/L	94
15)	1,2-Dichloroethane	15.20	1328	217894	57.13	ug/L	96
16)	2-Butanone	12.68	1075	24062	63.36	ug/L	78
17)	1,1,1-Trichloroethane	13.89	1197	284583	55.88	ug/L	96
18)	Carbon Tetrachloride	14.40	1248	270880	57.12	ug/L	99
19)	Vinyl Acetate	11.05	911	40442	42.94	ug/L	80
20)	Tetrahydrofuran	13.33	1140	21877	49.64	ug/L	88
21)	Bromodichloromethane	18.55	1664	323228	56.49	ug/L	94
22)	*1,4-Difluorobenzene	16.49	1458	439131	50.00	ug/L	99
23)	1,2-Dichloropropane	17.63	1572	161919	55.36	ug/L	85
24)	cis-1,3-Dichloropropene	19.78	1788	223636	56.23	ug/L	82
25)	Trichloroethene	17.08	1517	210031	56.45	ug/L	93
26)	Dibromochloromethane	22.67	2077	305666	50.24	ug/L	69
27)	1,1,2-Trichloroethane	21.73	1983	169631	54.41	ug/L	92
28)	Benzene	15.05	1313	382204	56.62	ug/L	100
29)	trans-1,3-Dichloropropene	21.31	1941	204374	49.12	ug/L	88
30)	Bromoform	26.32	2444	221604	54.40	ug/L	98
31)	*Chlorobenzene-d5	24.13	2224	372552	50.00	ug/L	97
32)	4-Methyl-2-Pentanone	20.34	1844	162752	53.02	ug/L	91
33)	2-Hexanone	22.56	2066	178634	56.26	ug/L	90
34)	Tetrachloroethene	21.98	2008	185666	55.00	ug/L	97
35)	1,1,2,2-Tetrachloroethane	27.90	2602	301311	51.83	ug/L	97
36)	Toluene	20.57	1867	252723	51.78	ug/L	99
37)	Toluene-d8	20.40	1850	399375	46.45	ug/L	98

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38)	Chlorobenzene	24.19	2230	361734	53.58 ug/L	94
39)	Ethylbenzene	24.61	2272	157311	55.15 ug/L	95
40)	Styrene	26.00	2411	336641	57.90 ug/L	85
41)	m&p-Xylene	24.94	2305	402765	114.32 ug/L	99

QUANT REPORT

Operator ID: GERALD
Output File: ^VB3B2::OF
Data File: >VB3B2::D2
Name: DAILY CONT. CAL VOA2
Misc: 12HR CALIB. CHK. 50PPB

Quant Rev: 7
Quant Time: 931013 08:09
Injected at: 931013 07:35
Dilution Factor: 1.00000
Instrument ID: VOA2

ID File: IDVAP2::QT
Title: BATTELLE EPA CLP METHOD ANALYSIS (CAPILLARY)
Last Calibration: 930929 16:08
Last Qcal Time: 931006 11:25

	Compound	R.T.	Scan#	Area	Conc	Units	q
42)	o-Xylene	25.95	2406	472150	58.15	ug/L	86
43)	Bromofluorobenzene	27.29	2541	263331	49.40	ug/L	95
44)	Propylbenzene	26.98	2510	589051	51.44	ug/L	99
45)	1,3,5-Trimethylbenzene	28.53	2665	463511	56.50	ug/L	99
46)	1,2,4-Trimethylbenzene	29.11	2723	428305	52.24	ug/L	93
47)	1,2,3-Trimethylbenzene	29.61	2773	437238	54.84	ug/L	82

* Compound is ISTD

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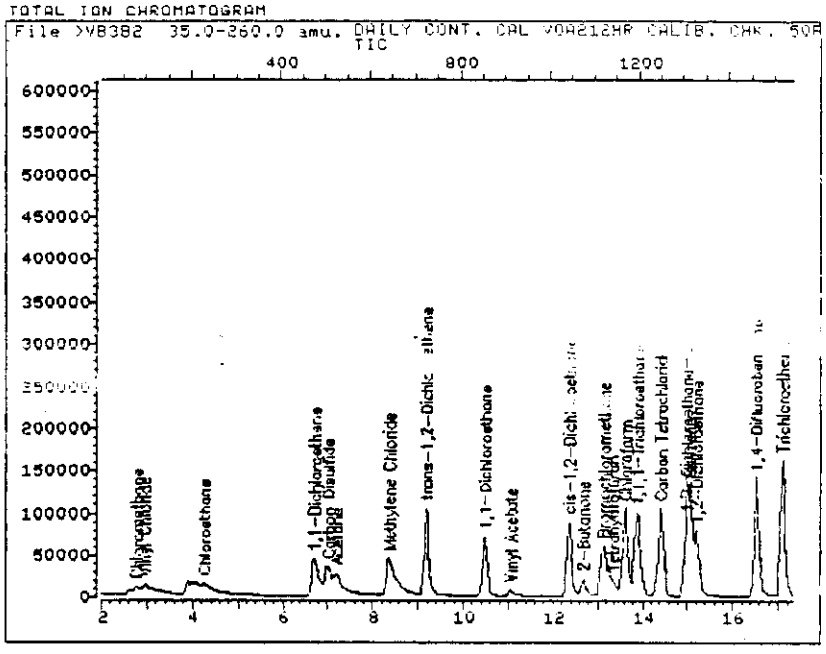

Data File: >VB3B2::D2 Quant Output File: ^VB3B2::DF
Name: DAILY CONT. CAL VOA2 Instrument ID: VOA2
Misc: 12HR CALIB. CHK. 50PPB

Id File: IDVAP2::QT
Title: BATTELLE EPA CLP METHOD ANALYSIS (CAPILLAR
Last Calibration: 930929 16:08 Last Qcal Time: 931006 11:25

Operator ID: GERALD
Quant Time : 931013 08:09
Injected at: 931013 07:35

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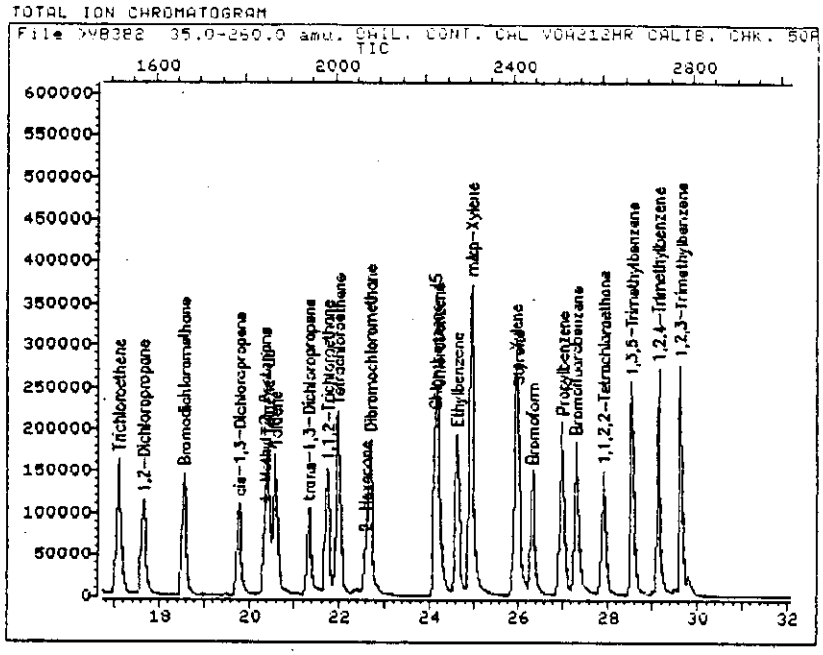

Data File: >VB382::D2 Quant Output File: ^VB382::DF
Name: DAILY CONT. CAL VOA2 Instrument ID: VOA2
Misc: 12HR CALIB. CHK. 50PPB

Id File: IDVAP2::QT
Title: BATTELLE EPA CLP METHOD ANALYSIS (CAPILLARY)
Last Calibration: 930929 16:08 Last Qcal Time: 931006 11:25

Operator ID: GERALD
Quant Time : 931013 08:09
Injected at: 931013 07:35

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[CCC AND SPCC DAILY CALIBRATION CHECK OPERATOR REPORT VOA 5]

DATA FILE NAME = >VB3B2::D2
DATE AND TIME OF ANALYSIS = 10/13/93 7:35
SAMPLE = DAILY CONT. CAL VOA
MISCELLANEOUS = 12HR CALIB. CHK. 50PPB
METHOD = VOAMH2
INSTRUMENT = VOA2
OPERATOR = GERALD SUPER GRP

	Retention Times		Response factors	
CCC COMPOUND	DAILY CAL RF		5-POINT AVE RF	%D
Vinyl Chloride	1.0127		.9448	7.19
1,1-Dichloroethene	~~.9120~~	1.21	1.0407	~~12.37~~
Chloroform	3.1309		3.0078	4.09
1,2-Dichloropropane	.3687		.3564	3.46
Toluene	.6784		.6457	5.06
Ethylbenzene	.4222		.3995	5.69

SPCC COMPOUND	DAILY RF
Chloromethane	.9907
1,1-Dichloroethane	2.4353
Bromoform	.5046
1,1,2,2-Tetrachloroethane	.8088
Chlorobenzene	.9710

DAILY CALIBRATION FOR VOA'S PASSED ALL CCC AND SPCC CRITERIA

THE RF AND RT VALUES WILL AUTOMATICALLY BE UPDATED IN YOUR IDFILE

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[RRT AND RF DAILY CALIBRATION GC/MS OPERATOR REPORT VOA'S]

DATA FILE NAME = >VB3B2::D2
DATE AND TIME OF ANALYSIS = 10/13/93 7:35
SAMPLE = DAILY CONT. CAL VOA
MISCELLANEOUS = 12HR CALIB. CHK. 50PPB
METHOD = VOAMH2
INSTRUMENT = VOA2
OPERATOR = GERALD SUPER GRP

Compound Name	Retention Times: RRT FOUND	RRT IN THE IDFILE	RT DIFF-ERENCE	Response factors: RF FOUND	AVE. RF FROM 5-POINT	RATIO RF FOUND TO RF IN IDFILE
Chloromethane	.21045	.20676	.05082	.99074	.9428	1.1491
Bromomethane	.00000	.29477	-3.866	.00000	1.2645	.00000
Vinyl Chloride	.22410	.22345	.01102	1.0127	.9448	1.1167
Chloroethane	.32418	.32589	-.0188	.64453	.5740	1.1834
Methylene Chloride	.63669	.63873	-.0196	1.3074	1.2116	1.1326
Acetone	.54871	.55598	-.0891	.72121	.6318	1.2610
Carbon Disulfide	.53428	.53089	.05037	3.1153	3.0092	1.1088
1,1-Dichloroethane	.79751	.79737	.01073	2.4353	2.1856	1.1470
trans-1,2-Dichloroethene	.69892	.69871	.01047	1.3544	1.2470	1.1477
cis-1,2-Dichloroethene	.94031	.94077	.01105	1.9481	1.8158	1.1428
Chloroform	1.0372	1.0365	.02115	3.1309	3.0078	1.1147
1,2-Dichloroethane	1.1580	1.1566	.03118	2.0342	1.8950	1.1426
2-Butanone	.96585	.96886	-.0287	.22463	.1902	1.2672
1,1,1-Trichloroethane	1.0585	1.0570	.03117	2.6568	2.5768	1.1175
Carbon Tetrachloride	1.0973	1.0950	.04117	2.5288	2.4099	1.1423
Vinyl Acetate	.84150	.84139	.01087	.37755	.4797	.85880
Tetrahydrofuran	1.0152	1.0182	-.0287	.20424	.2973	.95282
Bromodichloromethane	1.4130	1.4133	.01160	3.0176	2.8765	1.1298
1,2-Dichloropropane	1.0689	1.0695	.00167	.36873	.3564	1.1073
cis-1,3-Dichloropropene	1.1993	1.1988	.02160	.48044	.4829	1.0609
Dibromochloromethane	1.3741	1.3737	.02225	.69607	.7471	1.0047
1,1,2-Trichloroethane	1.3172	1.3180	.00210	.38629	.3729	1.0883
trans-1,3-Dichloropropene	1.2918	1.2925	.00213	.50588	.5102	1.0679
Bromoform	1.5959	1.5975	-.0077	.50464	.5367	1.0879
4-Methyl-2-Pentanone	.84294	.84366	.00158	.43686	.4607	1.0604
2-Hexanone	.93476	.93595	-.0078	.47949	.4282	1.1253
Tetrachloroethene	.91078	.91070	.02210	.49836	.4692	1.0999
1,1,2,2-Tetrachloroethane	1.1563	1.1569	.01280	.80878	.8525	1.0366
Ethylbenzene	1.0199	1.0199	.02235	.42225	.3995	1.1030
Styrene	1.0773	1.0778	.01235	.90361	.8268	1.1579
m&p-Xylene	1.0335	1.0340	.01234	.54055	.5126	1.1432
o-Xylene	1.0753	1.0749	.03244	1.2673	1.1343	1.1629
Propylbenzene	1.1183	1.1188	.01241	1.5811	1.5088	1.0289
1,3,5-Trimethylbenzene	1.1824	1.1834	.00275	1.2442	1.1657	1.1300
1,2,4-Trimethylbenzene	1.2064	1.2070	.01281	1.1497	1.1490	1.0447
1,2,3-Trimethylbenzene	1.2271	1.2281	.00292	1.1736	1.0330	1.0969
1,1-Dichloroethene	.51075	.50886	.03050	.91198	1.0407	1.0750
Trichloroethene	1.0357	1.0351	.02157	.47829	.4494	1.1289
Benzene	.91243	.91178	.02118	.87036	.8117	1.1324
Toluene	.85248	.85278	.01181	.67836	.6457	1.0357

Chlorobenzene	1.0025	1.0029	.01233	.97096	.9388	1.0716
1,2-Dichloroethane-d4	1.1405	1.1406	.01120	1.5072	1.5247	1.0351
Toluene-d8	.84543	.84573	.01162	1.0720	1.1113	.92906
Bromofluorobenzene	1.1311	1.1320	.00251	.70683	.7055	.98806

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